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INDICES

TO

The China Medical Missionary Journal.

VOL. X, 1896.

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Original Communications.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editor on the first day of the month preceding that in which they are expected to appear. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

THE REPORT OF THE OPIUM COMMISSION.

A non-medical writer naturally feels some hesitation in addressing the readers of a medical journal on any subject which might seem to lie especially within the province of medical men and to demand for its proper treatment a certain amount of technical and scientific knowledge which few laymen possess. It is not my intention, however, in the following pages to tread on any ground that belongs properly to the medical man. My desire is simply to offer some criticisms on the way in which the Royal Commissioners have dealt with the evidence on which their Report* is supposed to be based, and to try and enlist the services of medical men in the work of investigating this evidence more thoroughly than it has yet been investigated, with a view to ascertaining how far it really bears out the conclusions which the Commission has drawn from it. A good deal might be said by way of criticizing the evidence itself, but I shall not enter on that subject in this paper, except incidentally.

It is commonly assumed that the result of the Opium Commission's enquiry has been a crushing blow to the anti-opium party and to the anti-opium cause. That opinion, I think, is more likely to be arrived at from reading newspaper references to the Report than from reading the Report itself and carefully studying it in connexion with the evidence which the Commissioners have printed. My own perusal of the Blue Books

* N.B.—The word 'Report' in this paper is used in two different senses. It sometimes stands for the whole of the seven Blue Books which the Commissioners have published and which contain the evidence of all the witnesses. The more general use of the word, however, is to indicate only the verdict and comments of the Commissioners, which are found in Vol. VI., pp. 1-98. Whenever I speak of 'the Report' and 'the evidence' together, I use the word in the more restricted sense that I have just explained.

leaves on my mind the impression that we have gained at least a moral victory in regard to several most important points. That the first effect of this Report should be to create an impression on the public mind that the anti-opium party has been silenced is not wonderful. Englishmen are accustomed to regard the enquiries of Royal Commissions as being strictly impartial and trustworthy. But let it once be made apparent to the people generally, that in any particular case there has been a breach in the honourable traditions of our national method of enquiry by Royal Commission, and we may suddenly see a strong re-action of opinion and sentiment setting in, in regard to a matter which the verdict of a Royal Commission was supposed to have finally settled. I cannot profess to think that in the present instance the enquiry by Commission into the merits of the opium question in China, has been impartial, either in its methods or its verdict. I look forward to a time when the present Report will no longer be regarded by any one as authoritative. In order to bring about this consummation, it is earnestly to be desired that the anti-opiumists should make a conscientious and searching examination of the materials, in the shape of evidence, with which the Blue Books supply them. The work is a great one, but the issues at stake are great also, and many workers are necessary for the accomplishment of what needs to be done. A resident in China, *e.g.*, can see flaws in the Report and discrepancies between the evidence and the verdict, which our friends in England or in India would easily overlook. Again, a medical man can see in the medical evidence mis-statements as to facts, or illogical inferences from facts correctly stated, which a layman cannot see. And so on in regard to other aspects of the opium question, moral, historical, medical, financial. Each worker can in his own department do something to make the truth manifest; in so doing he will be able to influence people of his own class by arguments specially likely to appeal to them, and further, he will contribute materially to the general enlightenment of the public mind upon the whole question. It would be well for us all to feel the burden of the LORD laid upon us to do what in us lies, for the overthrow of the monster evil which within the last fifty years has wrought such devastation in China, and which within the next fifty years, if it be not checked, will work devastation in India, and even in England also. Indeed zeal for the welfare of our own land, should alone be sufficient to prompt Englishmen who know the evils of the opium habit, to do all they can to expose the true character of the Opium Report, for if ever the views advocated in it come to be widely known in England, and accepted as true, the habit of laudanum-drinking will certainly spread, to an extent ruinous to our country.

But, as I have already said, the task of examining the Report of the Opium Commission is a great one. A large folio work in seven volumes, weighing together over fourteen pounds, and containing 2,550 pages, of which nearly 2,000 are closely printed in double columns and small-type, represents

the evidence given before the Commission and the conclusions of the Commissioners. A most useful and compendious little work of about one hundred pages 8vo. entitled "The Opium Habit in the East. A study of the evidence given to the Royal Commission on Opium, 1893-4," has been published in London (P. S. King and Son) by Mr. Joshua Rowntree. In this little book, Mr. Rowntree attempts to provide some sort of help to those who wish to get at the gist of the evidence given before the Commission. He rightly characterizes the Blue Books themselves as "a vast trackless expanse of opinions on the Opium Question, interspersed with clumps of more or less useful information by way of appendices." The indexes provided by the Commission, which apparently were not published when Mr. Rowntree wrote his pamphlet, are exceedingly poor, and in some cases utterly misleading. One cannot help feeling sometimes that the references to certain subjects given in the index, are not intended as a guide to *all* the evidence on those subjects which was laid before the Commission, but only to such parts of it as the advocates of the opium trade wish considered. Let any one, *e.g.*, look under the word 'Medicinal,' and he will be apt to suppose that the medical testimony given to the Commission must be almost wholly favourable to the indiscriminate use of opium as a panacea for nearly every form of sickness and disease. It is needless to say that a good deal of the medical testimony was not at all of this nature. I will make my point clear by a few figures. The index under the word 'Medicinal' fills four columns and a half, each column eleven inches deep. The references are given under 235 headings; of these headings about 190 are devoted to references to answers detailing the benefits of opium, about 30 are devoted to answers of a neutral character (such, *e.g.*, as 'Quotations from Sanskrit books,' etc.), while not more than 15 point to answers manifestly unfavourable to the consumption of opium, or indicating the danger of its indiscriminate use. Now no one who has read all the medical evidence published by the Commission can possibly assert that an index compiled on these lines is a safe guide for those who enquire of it what the facts are in regard to the medical evidence, and where those facts are stated in the Blue Books.

If now we turn to the word 'Missions,' we find seventeen sets of references given. Of these *only five* direct us to answers where we shall find missionary testimony adverse to the use of opium, while as many as ten are headings such as these: (Missions) "Identified with the opium agitation," "Accuracy of their information doubted," "Opium no obstacle to missionary work," "Prejudice against opium unreasonable," "Paid enquiry agents of disreputable character alleged to be employed by missionaries," "Catholic missions find opium no obstacle to success." The animus of all this is only too manifest. Without imputing deliberate misrepresentation to the compiler of the index, one cannot but feel that he had not a single eye to the truth, that in his department of

the work to be done for the Commission he was not an impartial worker, that he was not scrupulously anxious to guide readers of the Report to those places where they would get a fair idea of the attitude taken by missions and missionaries towards the opium question. The mass of missionary evidence is very large indeed, but neither here, nor under the word 'Witnesses,' does one get any idea either of its amount, or of its predominant character. So far as China is concerned, the evidence of missionaries was very voluminous, very emphatic, and practically unanimous, at least as to the evils of opium consumption; but even under the words "China Missions" comparatively few references are given to what missionaries themselves say, and there is here *not even a single reference to any item of evidence in Vol. V.*, although it is this volume that contains the great bulk of the China evidence, and the volume is referred to elsewhere. But I have said enough of the index to give some idea of its unsatisfactory character. It is only fair to say that in some parts of it much more candour seems to have been shown, see *e.g.*, 'Popular view of habit,' but even here, it is much to be regretted that hardly any references are given to the China evidence to be met with in Volume V., for it is in that volume that the strongest things said about the opium habit are to be found.

When we pass from a cursory glance at the Blue Books as a whole, to a detailed examination of the evidence, we are at once struck with the glaring contradictions that meet us continually. The positive assertions of one witness are flatly contradicted by the next, in a way that must be utterly bewildering to readers who come to the study of the Report with no previous knowledge of the questions at issue, and with no clue to the comparative esteem in which the witnesses are held by those who know them best and who can best estimate the worth of their opinions. Perhaps the most bewildering contradiction in the whole of these Blue Books is one that will be of special interest to readers in China, and specially perplexing to readers out of China. In Vol. V., pp. 329-332 we find two witnesses belonging to the same mission—the American Episcopal Mission, living at the same place—Shanghai, answering the same questions, but expressing diametrically opposite opinions even in regard to the simplest questions of fact. As one of these two witnesses, Dr. Percy Mathews, has been specially chosen by the Commissioners for quotation in their summing up of the China evidence, and assigned a place of honour as a leading authority on the opium question, it may be as well to give a few specimens of the questions to which he and his much respected colleague Dr. Boone have both replied, but in an opposite sense. For the sake of clearness of comparison I give their respective answers in parallel columns:—

Q. What are the proportion of those who use opium (i.) without injury; (ii.) with slight injury; (iii.) with great injury ("opium sots")?

A. Dr. MATHEWS.

Dr. BOONE.

“(i.) 70 per cent; (ii.) 27 per cent; “(i.) Few, if any; (ii.) some are temperate; (iii.) most of them gradually take more and more, become greater slaves to the habit.”

Q. How does the use or abuse of opium among the races of that part of China with which you are conversant, compare with the use or abuse of alcohol among such races in regard to the effect on consumers?

A. Dr. MATHEWS.

Dr. BOONE.

“‘Alcohol’ is more injurious.” “Opium has the worst effect.”

Q. Is opium within your knowledge a prophylactic against fever or rheumatism or malaria?

A. Dr. MATHEWS.

Dr. BOONE.

“Yes.”

“No.”

Q. Is there amongst the Chinese in the part of China with which you are acquainted, any wish that England should not allow opium to be exported from India?

A. Dr. MATHEWS.

Dr. BOONE.

“I do not believe, and upon enquiry I have never heard of any uninfluenced desire in that direction.” “The Chinese do wish that England should not allow opium to be exported from India.”

A certain amount of contradiction in the evidence of witnesses was to be expected, and we need not be surprised at it, though one would hardly have expected two men working apparently under such similar conditions as Dr. Boone and Dr. Mathews, to view the facts before them with such different eyes. But there is a class of contradictions to be met with in this Report for which one is not prepared, and that is contradictions between the facts of the evidence and the statements contained in the verdict as to what those facts are. Let me illustrate what I mean. Twenty witnesses may have talked nonsense, and if they did so the Commissioners are well within their right in saying so; but the Commissioners are not within their right in saying that no such witnesses gave evidence! Or, again, twenty witnesses may have said that something was black which the Commissioners regard as being white. In that case, the Commissioners have a right to call attention to this circumstance, but they have no right to say that all these witnesses said that the thing in question was white. To say that, is simply to falsify the evidence. This is what I mean by a contradiction between the facts of the evidence and the statements of the verdict as to what those facts are, and I have felt it laid upon me to draw special attention to this feature of the verdict, for I conceive it to be a matter of the highest importance that the public should know that such a contradiction as this does occur in the Report. In an article written for the *Chinese Recorder* (January, 1896) I have shown that a statement made by the

Commissioners to the effect that "there is no evidence from China of any popular desire that the import of Indian opium should be stopped" is absolutely opposed to fact. I have proved beyond possibility of gainsaying, that *no less than forty* competent witnesses, including two English bishops, three British Consuls, several Chinamen of position, and a number of the best informed and most highly esteemed missionaries in China have all definitely and emphatically given the very evidence which the Commissioners say in their Report does not exist! What confidence can be placed in the accuracy or impartiality of judges who thus treat some of the most earnest and intelligent testimony submitted to their consideration? Numbers of people will accept this and other statements made by the Commissioners as being true, without ever reading the evidence to see how far they are borne out by it. It is for those who have read the evidence, and who perceive discrepancies between it and the verdict such as I have now alluded to, to point them out. I am sorry to say that my reading has convinced me that in more particulars than one, the verdict is not only against the evidence, but gives an account of what the evidence is, which does not correspond with fact. I have mentioned one instance; take another. In Vol. VI., Pt. I., p. 51, the Commissioners make the following statement: "In the British Consular service in China the prevailing opinion is that opium smoking in moderation is not harmful, and that moderation is the rule. . . . A minority of the Consular service condemn the use of opium in any form as essentially bad. *The medical opinions were in general accord with those of the Consular body.*" (The italics here and elsewhere are my own.) It will be observed that two things are here affirmed regarding the general drift of the medical evidence: Firstly, that the prevailing (medical) opinion is that opium smoking in moderation is not harmful; secondly, that the prevailing (medical) opinion is that moderation is the rule. *Both of these statements are absolutely untrue.* What are the facts? I have carefully analyzed the medical evidence with the following results: The medical witnesses *in China*, as far as I can ascertain, were exactly forty in number. Of these *not more than sixteen, i.e., less than half*, either say that 'opium smoking in moderation is not harmful,' or that 'moderation [in opium-smoking] is the rule.' Surely in face of such a fact as this, one can only say that the verdict of the Commissioners falsifies the evidence. But I will deal now only with the question of moderation in opium smoking being the rule or the exception. In regard to this matter the facts as to the medical evidence are easily tabulated, and I will now confine myself to dealing with this one issue. The question was asked of witnesses, "What are the proportions of those who use opium (i.) without injury, (ii.) with slight injury, (iii.) with great injury (opium sots)?" *Only eleven out of forty* witnesses affirmed in answer to this enquiry that a majority of Chinese opium smokers smoke without injury! Seven witnesses said or implied that without reliable statistics they could not give such proportions as were asked for, while

not less than twenty-two witnesses affirmed that in the majority of cases opium is used to the injury of the smoker. On the *extent* of the injury, hardly any five witnesses out of the whole company of forty were exactly agreed, but one thing is certain, viz., that what a man does *to his own injury* he cannot be said to do 'with moderation,' and medical men who declare that a man injures himself, whether 'slightly' or 'greatly' by the habit of opium can by no possibility be fairly appealed to as evidence for the man's 'moderation.' The Commissioners say in one place (Vol. VI., p. 15): 'No part of the evidence deserves more attention than that of the medical witnesses.' We may safely say for ourselves: 'No part of the *verdict* deserves more attention than that which deals with the medical evidence,' for here we find the Commission describing "the medical opinions" in regard to a certain point as being "in general accord with those of the Consular body," when the facts show that they are utterly at variance with it, *i.e.*, if the Commissioners have rightly told us what the opinions of the Consular body are, on which point I have my doubts.

But the truth is, the case is even worse than I have represented. In an appendix to this article I have given the name of every one of the forty medical witnesses, and have divided them into three classes, according to the character of their testimony on this single point of moderation in opium smoking. Take this evidence from one of the eleven witnesses, whom for perfect fairness' sake I have counted as supporting the Commissioners: Dr. Underwood, of Kiukiang, says: "I cannot give a direct answer to this question. My belief is that those who smoke only occasionally, in the great majority of cases do so without injury. *Very few of those who have smoked regularly for three years escape injury more or less.*" Or take what another witness in the same class, Dr. Lynch, of Chinkiang, says: "I am not sure of my competence to answer. I should say that of opium smokers one in four at least shows appreciable signs of ill-effects, and eight or nine per cent are 'opium sots.'" This is a very different thing from saying that the majority smoke without injury. In answer to the next question he goes on to say: "I have occasionally heard of men who had taken opium for years without exceeding a small dose and without suffering from it in any way. *But I have never met with such a case myself.*" The Commissioners need all the witnesses they can get, to save them from the charge of a reckless disregard of truth, so I gladly allow them to have Dr. Underwood and Dr. Lynch,* but if these two witnesses were denied them, as they well might be, how many witnesses would they have where-with to justify their assertion that "the medical opinions were in general accord with those of the Consular body?" It is difficult to speak without indignation of this method of misrepresenting the evidence. As we have

* If I have classed either Dr. Underwood or Dr. Lynch otherwise than he would wish to be classed, I apologize to them for the mistake. I am not quite clear in my own mind in which class they would wish to stand, but taking the literal wording of their answers, it seemed fairest to put them both in class III.

seen, the Commissioners at the outset laid down the principle that "no part of the evidence deserves more attention than that of the medical witnesses"; why then, in the name of all fairness and justice, did they not boldly confess that on the point under discussion "the prevailing opinion in the British Consular service" was *at variance with* the great bulk of medical opinion in China, and that consequently the prevailing opinion in the British Consular service if it was the prevailing opinion, which I very much doubt, must be received with the greatest caution?

And here there is a point well worthy of notice. The evidence shows that several members of the Consular service expressly disclaim any right to speak with authority, or to speak from personal knowledge, on the effects of opium smoking, and more than one Consul points to the missionaries and to medical men as those who are most competent to give trustworthy information. Sir N. R. O'Connor, Her Majesty's Minister at Peking, modestly remarks: "As to my own personal views I do not profess to have more than a very superficial acquaintance with the effects of opium consumption in China" (Vol. V., p. 229). Mr. B. C. George Scott, H. B. M. Consul at Swatow, writes: "It was my intention to have answered the questions myself, but on consideration I find that my information and opinions are for the most part second-hand. I have never turned my attention directly to the subject of the effects of opium on the Chinese" (Ibid, p. 212). Mr. Clement F. R. Allen, H. B. M. Consul at Chefoo, writes: "As a private resident in China, my experiences in China have not the weight either of those of a medical man or of those of a missionary. We consuls have little private intercourse with the natives outside our homes and offices" (Ibid, p. 279). Mr. W. R. Carles, H. B. M. Consul at Chinkiang, writes: "My opportunities for personal observation of the effects of opium on its consumers have been limited, for the intercourse between Chinese and Europeans is so restricted that I have never known anything of the domestic life, even of persons with whom I am in constant contact" (Ibid, p. 262). Mr. T. L. Bullock, H. B. M. Consul at Newchwang, says in his evidence that he has "given a good deal of attention to the subject during his 25 years' service in different parts of the country" yet even he, in sending to the Commissioners the answers of missionaries and others that had been entrusted to him, says: "The papers are for the most part furnished by missionaries. But missionaries in China, speaking the language, constantly moving about, and always in close contact with the people, are able to give far more trustworthy opinions on such a subject than any other class of persons can, though many of them, of course, have strong prejudices concerning it" (Vol. V., p. 266). More than one other consul confesses that he has not had much opportunity of really getting an insight into the social life of the Chinese. Why then should the Consular witnesses, of whom there were not more than twenty-five altogether, be first

all exalted to a place of special authority which not a few of them specially claim, and then have their testimony supported and enforced by an utterly true representation of the medical evidence, which for the most part contradicts their own?

Let us turn now from the question of the account which the Commissioners give of the facts of the evidence that had been submitted to them, and notice their method of selecting special witnesses to whom they can appeal, and whom they can quote as authorities, in their Report. This selection shows continually a very decided bias. Statements resting on very doubtful authority, but favourable to opium consumption or the opium trade, are quoted with approval in the Report, while other statements, having a contrary tendency, though based on much better authority, are slurred over or passed by with some depreciatory remark. We can readily understand that the selection of witnesses, whose evidence it was desirable to appeal to as being specially valuable and authoritative, was not always an easy task, but the selection ought to have been one which, when made, could justify itself on grounds of reason, and on account of the experience and local reputation of the witnesses. This view of the matter is well expressed by the Commissioners (Vol. VI., Pt. I., p. 15) in the following sentence: "Apart from the necessity of giving weight to individual testimony in accordance with the representative character of the witness and his opportunities for observation, we have felt it our duty to look particularly to fairness of mind and sobriety of judgment." All that sounds very good, but how is this principle applied in practice? At the risk of seeming personal I must take a test case and ask whether the selection of 'representative' medical witnesses in China is such as to commend itself on grounds of reason to residents in China. Three such witnesses are selected—Dr. Rennie and Dr. Myers, both of Formosa, and Dr. Percy Mathews, of Shanghai. I have never met any one of these gentlemen or had any communication with them, but the selection of three authorities, all chosen from that small minority of medical witnesses—eleven out of forty—which declares that the majority of Chinese opium-smokers smoke without injury, is in itself highly significant. The selection awakens in one's mind an uneasy feeling that the preliminary test of 'representative character,' 'opportunities for observation,' 'fairness of mind' and 'sobriety of judgment' in a witness, is, 'Does he belong to this minority of eleven which agrees with 'the prevailing opinion in the British Consular Service?' With no external evidence to show *why* Drs. Rennie, Myers, and Percy Mathews are specially appealed to as 'representative' medical men and as men conspicuous for 'fairness of mind' and 'sobriety of judgment' we are thrown back on their evidence to see if we can find for ourselves any indications of their representative character, etc., and of their special 'opportunities for observation.' It is enough for the purposes of this paper to deal with the claims of only one of these gentlemen to

speak as a special authority, and I select him, because his case seems special to challenge criticism. When we hear the word 'representative,' we naturally ask how the one solitary medical missionary who gives evidence which in many respects diametrically opposed to the testimony of *all the other medical missionaries in China*, can be regarded as in any sense 'representative.' When we hear of special 'opportunities of observation,' we naturally ask what special opportunities a man in Dr. Mathew's position can have had. He has been only six years in China; has never had a hospital under his charge; his principal practice has been that of medical attendant to the boys and girls in St. John's College, which is situated in the country, three or four miles out of Shanghai, and he has had in that neighbourhood a visiting dispensary. Why should such a man be preferred in point of opportunity for observation, to say, his colleague Dr. Boone, who has been thirteen years in China, and has had charge of a large hospital in the very midst of Shanghai itself? But the temptation to criticize does not stop here. When one comes to the direct evidence which Dr. Mathews gives, his very first answer is enough to startle anybody who knows anything of the social life of the Chinese and of the ordinary every-day experience of men in charge of mission stations. "Few cases of excessive opium-smoking *and but two opium-suicides* have come directly within my cognizance during the past six years." I do not for a moment question Dr. Percy Mathew's veracity,* but I think his experience in regard to opium suicides must be phenomenal, and without a parallel in the history of medical missionaries in China. For myself, though I am not a medical missionary and have never in my life dabbled in medicine or encouraged people to come to me to treat their ailments, I have been summoned before now to treat as many as *four cases of attempted suicide by opium in a fortnight*. I turn to a few old hospital Reports I have beside me, to see what has been the experience of medical missionaries in other places in regard to the frequency of opium suicides in China. In the Report of Dr. Merrins, of the American Episcopal Mission, Wuchang, for 1893-4, I find the following: "168 patients were seen in their own homes, the majority of them being cases of opium poisoning." In the Report of Dr. Hodge, of the Wesleyan Mission, Hankow, for 1890, we read "Opium has long furnished the approved, fashionable and respectable means of suicide in China, . . . every missionary knows this to his cost, as he is summoned at all hours day and night [to attend cases of attempted suicide], but the worst cases and most frequent summonses naturally come to the medical men." Dr. Davenport, of the London Mission, Chungking, gives the following figures for 1893 and 1894: "Opium suicides: Men, thirty-four; women, fifty-one. Total eighty-five."

* Dr. Mathew's statement, as it stands, is inexplicable to me as it will be to many others. I can, however, imagine two or three possible explanations of it which are quite consistent with the writer's truthfulness, though they reflect rather severely on his power of expressing himself in lucid English.

Dr. Gillison, of the London Mission Hospital, Hankow, in his Report for 1887-1888, gives the cases of attempted suicide through opium, in 1887, as thirty-one; in 1888, as forty-eight. But it is needless to multiply such figures and statistics. One may safely say that a medical man with such an *extremely* limited experience as Dr. Mathews here confesses to, is not one to be quoted as an authority by the side of other medical men of indefinitely larger experience*. But to proceed, in our endeavour to find in Dr. Mathew's evidence further traces of those "opportunities for observation," "fairness of mind and sobriety of judgment" which the Commissioners so desiderate in witnesses. In his answer to Question No. 9 (Vol. V., p. 330) we come across the following statement: "There is no comparison whatever between the native wine and 'alcohol' (the latter is practically unknown) since *a Chinaman ordinarily drinks several pounds weight, and must imbibe several pints before he can be considered legitimately drunk.*" Did anybody ever meet even a single Chinaman who "ordinarily drinks several pounds weight" of any fluid whatsoever? A large Chinese rice-bowl holds 12 oz. of water. Supposing a person to drink off four such bowls of tea at a time, an almost unheard of thing, he would still only have consumed three pounds. That thirsty Chinamen sometimes drink this quantity of tea at a sitting is conceivable, but that the ordinary Chinaman ordinarily imbibes this quantity even say, within six hours, is more than questionable. Not less surprising is the statement that "a man must imbibe several pints of native wine before he can be considered "legitimately drunk." I cannot say at what stage of the proceedings a man becomes "legitimately drunk," but I can say that before he had swallowed even a second pint of any native wine with which I am acquainted, any ordinary person who is not an habitually heavy drinker would certainly be intoxicated. Such statements as I have now quoted do not seem to savour exactly of "sobriety of judgment," and after reading them one is at a loss to understand why of all the medical missionaries in China, Dr. Mathews should be specially selected as an authority, when—to sum up what has been already said—he has only spent six years in the country altogether, has never had a hospital under his charge, and, by his own confession, has had next to no experience in dealing either with cases of excessive opium smoking or with cases of opium suicide. Such cases it is well known are continually met with by all medical missionaries in charge of hospitals, and the man who has not met with them is not representative of his class. It is true that Dr. Mathews informs the Commissioners that "as editor of the only medical journal in China I have had more extended facilities for examining into the question than ordinarily falls

* With Dr. Mathew's charmingly candid confession of utter inexperience compare the following extract from Dr. Cousland's (Swatow) evidence: "I have spent more than eight years in China in hospital and dispensary work among the people. *I have treated 2,000 men who have come into hospital for cure of the opium habit.*" Vol. V., P. 241. Dr. Dudgeon, of Peking, tells of a wider experience still, Vol. V., P. 229, and speaks of "scores of thousands of opium-smokers that I have seen, or who have passed through my hands during thirty years at Peking."

to the individual medical man." I leave it to medical men to say whether in the profession, editorship of a medical journal, by itself, would generally entitle a man with no other experience to claim a special right to speak as an authority on any medical subject. My impression is it would not. It is only right, however, to add that Dr. Mathews receives a very high testimonial from a Parsi gentleman, Dr. Cawas Lalcaha, of Shanghai. "No man," says Dr. Lalcaha, "has a larger experience, and no one is considered a greater authority on this important subject than the talented editor of the only medical journal in China, I mean Percy Mathews, Esq., M.D., LL.D., F.R.C.S." Vol. V., p. 254* Was it on the strength of these two testimonials, his own and Dr. Lalcaha's, that the Commissioners selected Dr. Mathews as a leading authority?

My space does not admit of my giving at any length various other instances I have noted of the way in which the Commissioners have chosen their witnesses; but I am prepared to prove that their references to their witnesses are oftentimes most misleading and most evidently biased. Missionaries who have said anything that can be quoted in support of maintenance of the Indian opium trade are quoted wholesale, and often at great length, while, as far as I have noticed, *not one quotation* from any missionary is given if it would tell against the opium trade. Occasional passing references of a brief and somewhat snuffy character are made to a few missionaries who have spoken very strongly against the trade and against the opium habit, but that is all. Even men like Dr. Griffith John, Dr. Dudgeon and others well known as vigorous anti-opiumists are made to support the Commissioners' conclusions by being quoted to the effect that if the Chinese had not Indian opium they would smoke Chinese opium. This way of only using witnesses to support conclusions which they did not wish to support, does not enhance one's idea of the candour, so much as of the cleverness of the person who was employed to draft the Report. Even some of the missionary witnesses in India, whose evidence we in China have most regretted, are quoted in a most one-sided way. While they on their part were very careful to guard themselves against saying anything that could reflect unfavourably on our efforts for the abolition of the opium trade with China, the Commissioners never allude to this fact so far as I have seen. Dr. Henry Martyn Clark, of the Church Missionary Society, *e.g.*, is quoted several times by the Commissioners, *but only when he is on the pro-opium side*. Yet hear what he says on the other side. "I am perfectly clear in my own mind," he says (Q. 16936), "that in China (opium) is the most terrible hindrance to the spread of the Gospel and the civilization of that country, and really works moral havoc." Again, the Bishop of Lucknow and his clergy who sent a memorial to the Commission

* It is unfortunate that this compliment to Dr. Mathews comes almost immediately after a very insolent attack on the missionary body generally. Dr. Mathews will regret this as much as any one. Few things are more distasteful to a man than to be picked out from his friends, in order that he may be complimented, while they are insulted.

minimizing the amount of evil wrought in *India* by opium, say (Vol. V., p. 138): "We express no opinion here as to the morality of the relations of the Government to the opium trade with China." I find no hint in the Report that any such reservation as this had been made by the memorialists. Yet it was most important, in the interests of truth, that this reservation should have been emphasized, for it is here that the crux of the whole business lies. Mr. H. J. Wilson, M.P., in his Minority Report or Minute of Dissent from the findings of his colleagues, makes the following pertinent remark (Vol. VI., p. 141): "The main purpose of the production and sale of opium in British India unquestionably is to supply the Chinese and other Eastern markets. The average production of opium in British India during the last three years as to which returns were supplied, was 54,707 cwts., of which 49,512 cwts., or 90.5 per cent. was intended for export to China and the Straits Settlements . . . the remainder, intended for consumption in India, technically known as *excise* opium, was 5,195 cwts., or 9.5 per cent." If the Bishops of Calcutta and Lucknow and the clergy under them like to strengthen the hands of the Indian Government in its dealing with the question of opium consumption in India they must do so, but let it be clearly pointed out that *this is only one-tenth of the question at issue*. We in China know something about the other *nine-tenths*, and we have a right to speak and a right to feel. Who can regard without some warmth the treatment which the Bishops of Calcutta and Lucknow and their friends have received at the hands of the Commissioners when he compares it with the treatment received by the Bishops of Hongkong and Mid-China and their friends? The Indian missionaries who memorialized the Commission *against* opium on the ground that it was a hindrance to the spread of Christianity are dismissed with just nine lines of the Report (§76). On the other hand, the Indian bishops, and clergy, and missionaries of all sorts who said something *for* opium are treated to a whole page and more (§§77, 78) of commendation and quotation. These witnesses, remember, have only to do with one-tenth of the opium question. Now turn to the China missionaries, who are practically unanimous in their condemnation of opium and see the treatment they receive from the hands of the Commission. Two English bishops, two archdeacons and thirteen other British missionaries, all of more than twenty-five years' standing, and representing, really, all the missionaries of all the Societies, sent in a memorial representing their view of the exceeding evil wrought by opium. They all speak out of a large and varied personal experience, and put their case very forcibly, but how is the memorial treated? I think I am right in saying it *is not even alluded to* in the Report; certainly it is not quoted. The China missionaries seem to be practically disposed of in one or two short passages such as the following: "By the majority of the missionaries of every Christian communion in China the use of opium is strongly condemned. Other missionaries take a less

decided view. Of these last, two may be quoted. The Rev. W. Ashmore, of the American Baptist Mission, forty-three years a missionary in China, states that some men will use opium for years and not show marked results." Then follows a quotation of several lines of small print, which is intended to illustrate this 'less decided view,' from the Rev. A. Bone, of Canton. It would have given a truer idea of Dr. Ashmore's evidence if the following passage had been quoted, though this would not have suited the purpose of the Commissioners so well. Asked about the proportions who smoke without injury, etc., Dr. Ashmore replies: 'Without injury': Apparently most of those who are in the early stages of the habit. *This for a short time only.* 'With slight injury:' *The same persons* above indicated, as the occasional use becomes regular, and *that, too, only for a time at the beginning.* 'With great injury:' *Nearly all those with whom the habit is fully formed,* and whose regular recurrent daily craving has attained the mastery over the man." So much for the ability of the Commissioners to represent truthfully the drift of an anti-opium witness' testimony! As for Mr. Bone, the general character of his evidence may be guessed from one sentence which the Commissioners have not quoted. "N.B. I never will allow an opium-smoker among my crew if I can avoid it." But enough of such quotations. The more I study the Report the more I feel that it is worse than untrustworthy—it *is bad*. After the experience I have had of the value of the verdict where it relates to things that I know about and to things where I can test the truth of its statements, I feel that my confidence in its truthfulness in other regions with which I am not familiar is gone. I have written strongly, but I hope not too strongly. That I have endeavoured to the best of my ability to be accurate will be seen from the pains I have taken to give references in support of all I have said. In several instances I have deliberately understated my facts. If I have misrepresented anything or anybody I shall feel obliged if some one will point out my misrepresentations. But, on the other hand, if no one can show any important mis-statement in this paper then I claim to have established more than one weighty and most damaging charge against the methods of the Royal Commission on Opium, and to have shown that the triumphant applause with which the Report has been received in some quarters is premature.

I cannot close without expressing my hearty appreciation of the earnest, disinterested and hopeful way in which one of the Commissioners, Mr. H. J. Wilson, M. P., has ventured to stand alone and to present a Minority Report which will live and will be appealed to and respected when the Majority Report has ceased to be appealed to by any one, and to be respected by any one.

ARNOLD FOSTER.

Table showing Medical Opinion in China on the Harmfulness of Opium-smoking, as indicated in the evidence given to the Royal Commission on Opium.

The following question was asked by the Commissioners:—

What are the proportions of those who use opium (i) without injury, (ii) with slight injury; (iii) with great injury (opium sots)?

The witnesses may be divided into three classes according to their answers.

I. Those who decline the question on account of the want of reliable statistics.

II. Those who say that the majority of opium smokers use the drug with injury, slight or great.

III. Those who say that the majority use it without injury.

Inasmuch as about one-third of the witnesses do not attempt to give percentages, but only say 'small percentage,' 'large percentage,' 'a few,' 'the majority,' etc., it seems best simply to arrange the witnesses in classes without attempting to give details as to the exact evidence of each one.

The number given after each name indicates the page in Vol. V. of the Report, where the answer will be found. Three other medical men, formerly practising in China—Drs. Lockart, Maxwell and Gauld—were examined in London, but as their connexion with China has ceased for many years they are not classified here.

Class I. Seven witnesses:—

Dr. B. C. Atterbury (231), Peking; Thomas Gillison, M. B., C. M., Edin. (297), Hankow; R. A. Jamieson, M.D., M.R.C.P. (244), Shanghai; Etr. von Tunzelmann, M.B., London, M.R.C.S., Eng. (282), Chefoo; A. W. Douthwaite, M.D. (107), Chefoo; Dr. Horder (290), Pakhoi; Alice K. Marston, L.K.Q.C.P.I. (236), Peking.

Class II. Twenty-two witnesses:—

Robert Beebe, M.D. (334), Wuhu; H. W. Boone, M.D. (331), Shanghai; Fredk. J. Burge, L.R.C.P., Lond. (245), Shanghai; Dugald Christie, L.R.C.P. and S. Ed. (275), Moukden; G. A. Cox, L.R.C.P. & S. Ed. (258), Chinkiang; Robert W. Cox, L.R.C.S.I. (332), Wuhu; Philip B. Cousland, M.B., C.M., Ed. (241), Swatow; C. C. de Burgh Daly, M.B., B.Ch., Dublin (269), Newchwang; Cecil J. Davenport, F.R.C.S.E. (340), Chungking; John Dudgeon, M.D., C.M. (229), Peking; Sydney R. Hodge, M.R.C.S., L.R.C.P. (296), Hankow; E. R. Jellison, M.D. (334), Nanking; Henry Layng, M.R.C.S., L.R.C.P. (216), Swatow; John E. Kuhne, M.B., C.M., Ed. (220), Canton; Jas. H. McCartney, M.D. (339), Chungking; Dr. J. F. Molyneux (305), Ningpo; John Rigg, M.B., C.M., Edin. (297), Foochow; R. Swallow, M.D. (308), Ningpo; Geo.

A. Stuart, M.D. (332), Wuhu ; J. M. Swan, M.D. (222), Canton ; J. M. Young, M.B., C.M., Ed. (232), Peking ; J. Hudson Taylor, M.R.C.S., Vol. I. ans. 410.

Class III. Eleven witnesses :—

Charles Begg, M.B., C.M. (291), Hankow ; Edward Henderson, M.D., F.R.C.S., Edin. (244), Shanghai ; J. A. Lynch, M.D. (260), Chinkiang ; J. H. Lowry, L.R.C.P. & S. Ed. (336), Wenchow ; Cawas Lalcaca, M.D., L.R.C.P., Lond. (253), Shanghai ; Percy Mathews, M.D., LL.D., F.R.C.S. (329), Shanghai ; W. Jennings Milles, M.D., F.R.C.S., Eng. (252), Shanghai ; W. W. Myers, M.B., etc. (324), Formosa ; Alex. Rennie, M.A., M.B., C.M. (217), Formosa and Canton ; J. J. Underwood, M.B., C.M., L.R.C.S. (315), Pagoda Island ; Geo. R. Underwood, M.D. (302), Kiukiang.

The seven witnesses named in Class I have not answered the test question which would have shown unmistakeably their opinion on the subject of moderation being the rule or the exception with Chinese opium-smokers. It is, nevertheless, possible to judge pretty accurately from the answers they give to other questions, what their views of this subject are. I think the Commissioners may fairly claim the late Dr. R. A. Jamieson of Shanghai, and Dr. von Tunzelmann of Chefoo as being on their side and as swelling their minority to thirteen. I claim the remaining five witnesses as being certainly *against* the verdict of the Commissioners, and as swelling the majority to twenty-seven. We are brought therefore, finally, to this point that thirteen witnesses are treated as expressing the 'prevailing opinion' of forty persons, although the remaining twenty-seven witnesses expressed the opposite opinion.

A. F.



A FEW OBSERVATIONS MADE IN CHINESE OUT-PATIENT PRACTICE.

What proportion of our out-patients can read ? This is a question which concerns us from an intellectual and educational point of view, and also from a missionary point of view. Men of status in England, men who are supposed to be well read, and to say nothing without authority, nevertheless come out with extraordinary statements about the capacity of the Chinese peasant for letters. Not so very long ago the famous educationalist, Mr. Gorst, gave vent to such a remark. He assured people that there were very few in the Chinese empire unable to read. I am not going to pit my view against Mr. Gorst's, but I will remind him and others who pass similar judgments that China is a whopping big country, and that no historian, geographer, politician, statistician, or educationalist has ever yet done the country justice. Can we not assist these gentlemen to judge

righteous judgment by collecting a few statistics for them? I am prepared to say from statistics that *about half* of our Hankow out-patients can read, and therefore that another half can *not* read. So I object to Mr. Gorst speaking for this part of China. No doubt among the reading half would be found a few whose reading capacity was very meagre, and among the non-readers would be found a few who could pick out a few characters. Yet the proportion I have given is on the whole correct for Hankow and district. Cannot some of our brethren who live in other parts of China give us the result of their observations? There being so large a proportion of those who are ignorant of letters among our out-patients, we see one advantage of taking them in as in-patients. They can, as a rule, get in a hospital an opportunity of learning to read which they would fail to get elsewhere. Might we not remember this more than we do and make more systematic effort to help them? Mrs. Foster has an admirable little book for beginners, and probably others are to be had elsewhere.

Another question upon which many English people of excellent parts are misinformed is the prevalence of drunkenness. China is often represented as being almost a teetotal country. It is said to be very rare to meet a drunken man on the streets. If this is supposed to be true of Hankow and district it is all fudge. The Chinaman may have (and as I think does have) a greater wine capacity, *i.e.*, capacity for getting drunk without being uproarious, than the Englishman, yet drunken Chinamen are common enough in this part, and when a Chinaman stops you and wants you to look at the stars in broad daylight it must be confessed he is pretty bad. Who hasn't seen the vinous type of nose in China, that tell-tale nose that goes along with a ruined stomach? At the same time I admit readily enough that there are not a few total abstainers amongst the Chinese. Statistics from out-patients here show about 57 %. This is perhaps a little too high, yet as the Chinese are mostly very candid in the matter it cannot be very far out.

A kindred habit, that of smoking, has also engaged my attention. Here again we find about 57 % who abstain from the use of the weed. I confess to being glad to find so large a proportion. I was under the impression that it was more prevalent. Nearly 42 % abstain from both wine and tobacco. This is very good. About 15½ % take wine, but do not take tobacco, and about the same proportion abjure wine, but find a solatium in the weed. I believe that smoking has a pernicious if not a determining effect upon a disease that is very common in this part of China. I refer to granular pharyngitis. [We very much doubt this. The Chinese are mostly water-pipe smokers, the least irritating of all the methods of inhaling the smoke. Our own observations have led us to connect this common throat trouble with two things: (1) strong alcohol, (2) very hot native tea.—Ed. *M. M. J.*]

The height of the average out-patient who comes to our dispensary I make out to be about 5 feet 5 inches. Five feet 2 or 3 inches is a very common height. The Hunan men help to bring up the average. Five feet 10 inches is a common enough height with them. I have seen no very marked example of the little blunt point projecting from the helix supposed by Dr. Darwin and others to be a 'vestige.' The Chinaman's ear seems very uninteresting in that way. The most marked case was in a boy of 7. I have recently seen two pairs of ears that were interesting as regards their form. One pair was remarkably thin and parchment like, a sort of ear you would put under the microscope to study problems in circulation. Another pair were also thin, but remarkable for their softness and the great depth of the concha. I call this the sow purse ear and have seen another example of it, but not so marked. On one other subject have I recently made observations—wisdom teeth. These, as in the case of other races, are smaller than the other molars, and as some have supposed are more liable to decay and early loss. I am certainly of this opinion from what I have seen with my own eyes. They are sometimes strong and well developed, though always smaller than their large neighbours. After the age of 40 we often find them going or actually gone. Those in the upper jaw are first to disappear. Sometimes they appear early. A lad of 16 had one in his lower jaw (the left), and I have seen lads of 19 with all 4 strongly developed. On the other hand, they are sometimes late in appearing, and I have seen men of 20 or 30 odd years who are still waiting for their wisdom teeth.

GERALD S. WALTON, M.B.

VICEROY'S HOSPITAL FOR WOMEN AND CHILDREN, TIENTSIN.

By Dr. L. HOWARD KING.

During the winter and spring of '84 and '85, with the help of Miss Kerr and Mr. King, I treated 84 soldiers from the seat of war, several of whom had been under the care of Dr. Kin at Chin-chow, and later on at Shan-hai-kwan had their wounds dressed by members of our Red Cross Society. They were from K'ing-yang, Chiu-lien-chêng, Chi-li, Kou-tzü, Kin-chou, Ta-lien-wan, Port Arthur, T'ai-p'ing-san, T'ien-chuang-t'ai.

Some of the soldiers wounded at T'ien-chuang-t'ai had, according to their own account, a terrible experience on the way to Chin-chou. The snow was deep; they could not walk. They hired donkeys and carts at great expense. One poor fellow, whose foot I afterwards amputated, paid a large sum for a donkey to take him part of the way, the roads being impassable for the animal. The owner of the donkey left the man at a small village, and he had to give all the cash he had left to pay two men to carry him to his destination.

His comrade had a bullet in his left knee joint; he had been four weeks on his journey to Tientsin and arrived with pyæmia, of which he died in about two weeks. I had one death, one amputation and one case of tetanus. I extracted four bullets and some fragments of bullets and several splinters of bone.

Three bullets passed through the pleural cavity and one through the crest of the ilium. One ball struck the left cheek and came out at the mouth, carrying away the teeth on the upper and lower jaw and making a clean cut through the dorsal surface of the tongue. When the last named patient came in he had ankylosis of the jaw, which improved very much under treatment.

I had several shots through the ankle or wrist; these were slow in yielding to treatment. Many of the clean cut gun-shot wounds, piercing legs or arms, if not in the vicinity of joints, had nearly healed, though the poor fellows were suffering greatly from severe frost bites. On their journey they had waded through water and snow. This class of patients were much benefited by a medicated tepid foot-bath morning and evening.

As to dressing, in most cases absorbent wool was used. The ladies kept us supplied with bandages. The wounds were irrigated with solutions of corrosive sublimate, acid carbolie, acid boracic and permanganate of potass. The men were always obedient, respectful and very grateful for kindness shown to them.

I found the representatives of the Chinese government ever willing to contribute money to defray expenses connected with the wounded soldiers.

The Red Cross Society also bore a part of the expenses.

I have also to acknowledge one hundred Taels generously given by H. Mandl, Esq. I have two native lady doctors—Mrs. Hsü and Mrs. Tai—trained by myself; being young women they could not help me in my daily work among wounded soldiers, but assisted at operations and carried on the usual daily clinics for women and children.

SOME OBSERVATIONS ON THE OPIUM HABIT.

BY P. B. COUSLAND, *M.B., C.M.*

[The following was originally part of a private letter written in reply to Dr. Atterbury's appeal *re* the Opium Commission. It was not intended for publication, hence its unfinished look. It is now published by kind permission of Dr. Cousland, who begs the reader to excuse its many imperfections. We think our readers will agree with us that it is a very valuable communication.—ED. *M. M. J.*]

I append some notes on the subject and a few statistics. I am sorry the latter are not more complete and do not embrace a larger number, but it is only lately that I began to collect them with any minuteness.

1. All except a few interested people agree as to the hurtfulness of the use of opium in *excess*. I estimate that here from 5 % to 10 % of the population are habitual smokers, and of these 10 % are "opium sots." In Vol. V of the proceedings the percentage of the latter is usually given as being higher than I have given it, but even at 10 % the ruin and degradation of such a large number demands a very marked benefit to the other 90 % before its use can be justified.

2. The dispute all hinges on the question of "*moderation*." Par. 141 says: "We conclude that the habit is generally practised in moderation, and that when so practised injurious effects are not apparent." The meaning of moderation here evidently is, when there are no apparent injurious effects. If that is so I cannot agree with the conclusion that "the habit is generally practised in moderation." My experience is that it is the exception to find no evidences of injurious effects—moral, physical or social. In some cases these are apparent enough, in others the superficial observer will not find them. In the vast majority there is more or less idleness, inactivity, want of energy, diminished capacity for work, chronic constipation, sometimes alternating with diarrhœa, loss of flesh, dusky complexion weakening of will power, general shiftiness of character, natural disregard for truth intensified. These, I repeat, are seen in the *vast majority* of the so-called moderate smokers, leaving only a small minority where they are not apparent. The social effects are by no means the least. In this part of China a man earns from 15 to 20 cents a day, taking the average of the great mass of the people. Few opium smokers use less than 10 cents worth of opium daily, many use more. A man may exist on five cents a day, but he cannot support himself and family even on twice that sum. The consequence is that the average "moderate" smoker is insufficiently nourished, his wife and family are half starved and much misery and wrong-doing result. It may be said this is not the result of the *opium*, it is its expensiveness. To this it may be replied that but for the *habit* or *slavery* to the pipe it would not occur, and therefore it is the result of the "moderate use of opium."

The annexed statistics refer with few exceptions to "moderate" users of opium. Many of them showed few apparent signs of being injured. Why if moderate smoking is so harmless do they wish to stop? One year there were no fewer than 600 opium smokers registered in the Swatow Hospital as having come for cure. The great majority of these were "moderate" smokers, and yet they could not stop smoking. They said they could not work so well as formerly, they were weaker and lacking in energy, they were poor, and those dependent on them were insufficiently provided for. Their parents

or wives were greatly distressed because they smoked. In many cases these relatives had sent them to the hospital and had provided the necessary funds.

Surely these injurious results are "apparent" enough to the careful investigator. To the superficial observer they may not always be. It is not the case here that "so long as the opium" (smoker) "gets his dose punctually, and his consumption is moderate, he is quite indistinguishable from the rest of the community. His system adjusts itself perfectly to the new factor in his environment, all the functions are performed in due order, and with normal efficiency."*

In my experience the great majority of opium smokers are easily distinguishable. As a rule I can tell one by a look, and the Chinese are a good deal sharper. As to his functions Sir W. Roberts himself says further that constipation is common with Indian opium eaters. With us the opium smoker almost invariably suffers from constipation, loss of flesh and general debility.

What Sir W. Roberts says about "tolerance" is very interesting, and while true in a number of cases one sees is not so in the majority. The point where the dose becomes stationary is where the demands of the habit and the demands of the tissues for ordinary nutrition bring about a compromise. In other words it is usually a question of cash.

3. *Alcohol v. Opium.*—Opium cannot be put on a par with alcohol. Most men may take the physiological quantity of alcohol daily and yet give it up whenever required. It is not so with opium. If a man smokes a small quantity daily for a few months he has formed the habit and cannot easily give it up. With determination he could endure the suffering and break off the habit, but let him go on longer, and his will power, unless in very exceptional cases, has deteriorated, so that he cannot. This will show there is no parallel. Opium is much the stronger narcotic poison of the two. The rapidity with which it takes hold of a man in the ordinary run of cases is only paralleled in the case of alcohol in cases where there is hereditary alcoholic history. Whoever heard of "moderate" drinkers coming to hospitals or asking their physician to break them of the habit? and suffering severely while undergoing the deprivation. The rule, too, after stopping opium is to suffer for many months from muscular pains and cramps, and the great majority fall back into the habit again. A man who had an alcohol habit, so that when the time came round for the accustomed dose he was incapacitated for mental and physical work and who could not give up his alcohol without medical aid and restraint, would not be looked upon by the profession as using it in harmless moderation. This is the case with all habitual users of opium, and serves to put them quite out of comparison with habitual moderate users of alcohol. You cannot "fairly compare," etc., as the report

* Final Report Royal Commission on Opium, p. 103.

says. The only fair comparison would be to place the habitual opium smoker on a par with the man who uses alcohol in more than physiological doses, *i.e.*, an "alcoholic" or a "chronic soaker."

I do not think the Chinese would take to alcohol if deprived of opium. They have got along without other "euphonics" than tea and tobacco in the past. Those who stop opium do not take to alcohol.

Although I have made inquiries I have come across no evidence that *malaria* has anything to do with the use of opium here. I do not even know of cases where it is taken to relieve the discomfort of the ague attacks. The use of opium is not commoner in the more malarial districts than of those less malarial. It is a *social* vice. The agriculturists are as a class not addicted to its use in spite of their exposure to malaria, the habit flourishing in towns and cities, less so in small villages.

We are sometimes asked for evidences of organic changes, etc., and great stress is laid upon their absence and comparisons instituted between their non-existence and the lesions of alcoholism. But what about the mor- change? Is not that even more important? Whether is alcoholic cirrhosis of the liver or opium moral cirrhosis the worse? Which is the graver lesion, alcoholic cardiac fatty degeneration or opium psychical degeneration? Even *blunting* the moral sense is bad enough. We want to quicken it in these people. The secret of much of the conflicting evidence lies here. We are seeking to do the latter, and our non-missionary countrymen are not.

Opium Statistics.

AGE.—20-30	18 cases	}	49 cases.
30-40	17 "					
40-50	14 "					

Average	{	Age commenced to play with pipe 24.4 years.	32 cases.	Youngest 9,
		oldest 40.		
	{	Age when habit was formed 27.37 years.	38 cases.	Youngest 18,
		oldest 42,		

so that Dr. Roberts' idea that opium is used as a stimulus for declining years does not hold good here.

REASONS FOR STOPPING.—Poverty, expense, debt, revilings of parents, etc., falling off of business. These in great majority of cases.

Two cases, well-to-do.—Lazy, lie in bed till midday, can't manage affairs properly.

One case, well-to-do.—Interferes with business and going about to collect accounts.

REASON FOR SMOKING.—Pleasure	23 cases	} 41
Disease (to relieve symptoms)	18	"			

In no case was the disease cured. In some aggravated. In few were the symptoms relieved.

LOSS OF FLESH.—*Yes*, ... 20 cases, 4 HAD PLENTY OF FOOD.

Yes, ... 1 ,, partly due to ague.

NO LOSS OF FLESH ... 6 ,, all plenty of food.

ABILITY FOR WORK.—

Diminished ... 31 cases, 6 plenty of food.

Normal ... 2 ,, food not recorded.

Increased ... 1 ,, op. relieved abdominal pain.

RELATIVES greatly opposed in all cases where the question was asked, *i.e.*, 16 cases.

DAILY AVERAGE VALUE OF OPIUM SMOKED.—\$0.17½. 51 cases.

Minimum04. Habit formed 1 year.

Maximum ... 1.33. ,, ,, 10 years.

DAILY AVERAGE QUANTITY.—Grains 105, or 1.819 mace.

N. B.—The above cases were all treated in this hospital during part of 1894 and 1895.



THE BUBONIC PLAGUE IN SWATOW.

During the summer of 1894 when the plague was raging in Canton and Hongkong every feasible precaution was taken to prevent the importation of cases to this port. A number were intercepted and lodged in a temporary hospital, but others in the incipient stages escaped detection. No outbreak followed. In July the rats died in the characteristic way in several hongs, and a few cases occurred among human beings. One of these I saw at the end of August. The patient was a clerk in the telegraph office.

The next occurrence was on the 16th of March, 1895, when I was called to see a young man, a godown keeper. He had been ill for two days. Temp. 103.6 F., feeble pulse, delirious, characteristic pale face, no buboes. Died that day. The next was a month later. He was admitted as an in-patient on the supposition that he was suffering from some form of tonsillitis. The real nature of the disease was not suspected until some time after he was dead. No cases occurred in the hospital in consequence. About this time we heard of deaths in Swatow, undoubtedly due to plague. Rats were also dying in great numbers.

April 30th. Heard of eleven cases in one hong, with six deaths up to date.

The disease attained its maximum by the middle of May. For several weeks the number of deaths was about three per diem and as many probably were taken home to die, making six deaths per diem. There was a gradual declension during June, and by the end of the month quarantine on Swatow steamers was removed.

During July there was an average of about two deaths a day, all told. Altogether I estimate that in Swatow, with a population of perhaps 30,000, there were over 400 deaths. This includes those who went home to die, and is probably an underestimate. It was impossible to get accurate statistics. The chief source of our information was the 'King of the Beggars,' and as all burials are the perquisite of his tribe his daily returns were of value. The proportion of young women and children affected was very large. The mortality was especially high among them. All the cases I saw, about ten in number, died. They were almost all young women or girls. No domestic animals were affected as far as I could learn.

Two points seem worthy of having attention drawn to them.

The first is an affection of the tonsil and soft palate, which appears to me to be quite pathognomonic. It was noticed in two cases. One was an elderly man with the sub-maxillary and cervical glands on both sides greatly enlarged. His tonsils and the adjacent velum of the soft palate were greatly swollen and hard looking. The colour was a dark red, somewhat mottled or streaked, and the appearance quite unlike any I have ever seen. The other case was in a young woman who had been ill for a week with pneumonia as a complication. On the soft palate between the uvula and the tonsil on the left side was a round hard-looking swelling of a mottled or streaked appearance; the darker parts being dark red.

The glands behind the angle of the jaw were *not* enlarged. In the left supraclavicular region one gland was enlarged, but only to slight extent. The affection in this case could not be due to extension of inflammation from the gland.

The second point is the drop in the T. and alleviation of symptoms on the 2nd or 3rd day, which occurred in a number of cases. It led me at first to give a favourable prognosis. Next day the fever rose again, although not to the same height, and death followed. Except in the very malignant cases the patients did not look as ill as they were, and judging by other zymotic diseases it was not easy to estimate the gravity of the condition. The most marked and unexpected feature was the way the heart gave out when there was nothing in the temperature or other symptoms to explain it. The epidemic spread to a few towns and villages near Swatow, but showed no tendency to go further. It will be interesting to see whether this summer it will continue its progress. Last year it was said to be prevalent in Southern Fokien. We shall probably see this year how far up the coast it will extend.

PHILIP B. COUSLAND, M.B., C.M.

(Original articles continued on p. 54.)

Medical and Surgical Progress.

In a clinical lecture on harelip in the *Practitioner* for 1895, a lecture well worth reading, Mr. Christopher Heath makes the following remarks: After the operation "it is very advisable to prevent the child crying, and the only way that I know of preventing the child crying is by having it assiduously nursed, and also by giving it minute doses of opium. You will find that one of the best ways of giving opium to a young child is to put one or two drops of laudanum into an ounce of dill water, and then let the nurse give a teaspoonful of that every two or three hours, so as to keep the child a little under its influence. I would remind you how easily young children are affected by opium, but by thus arranging to give the eighth or twelfth of a drop as the dose it is quite possible to get the sedative effect of the laudanum without running the least risk of poisoning the child. Then, of course, it is very important that the child should be fed, and while the lip is healing it is not advisable to put a bottle to the child's mouth, and therefore you must trust to spoon-feeding with good milk." In cases of more or less projection of the inter-maxillary bone he recommends removal of this inter-maxillary bone; "it is a very simple operation, for you only have to nip off the bone with a pair of bone-forceps. But let me warn you there is always a little spouting artery, and therefore you ought to be prepared with a hot wire of some kind, so as to be able to touch the point and arrest the hæmorrhage. It is very difficult to effect this in any other way, but with a needle heated in a spirit-lamp it is readily enough arrested. Now, an operation of that kind, although not very severe, is quite severe enough for a young child, and it would be very rash to proceed on the same day with the operation

of paring the lip. Let the child thoroughly recover, let it have a week or a fortnight and get into thoroughly good health again after the removal of the inter-maxillary bone, and then it will bear, in all probability, the remaining operation satisfactorily.

The operation in these cases is complicated by the fact that the piece of flesh which is upon the inter-maxillary bone, and which I need hardly say should never be cut away with the bone, is really the representative of the columna of the nose; and if you are to have a good result you must restore it to its proper position as the columna of the nose, and make no attempt to bring it into the lip. I have seen cases in which that mistake has been made where the columna has been brought down and put into the middle of the lip, and the result has been exceedingly unsatisfactory. But the proper thing is to turn this little piece of skin and flesh into the position of the columna of the nose, and then to pare the edges of the lip and bring them together in the middle line—in fact, to convert what was originally a double harelip into a single harelip, and treat it accordingly.

AN EASY METHOD OF STAINING THE FUNGUS OF RINGWORM.

Mr. Malcolm Morris writes on this in the same number: Referring to the researches of Sabourand he shows that this worker "classifies these parasites under three principal types, viz., (1) a small-spored fungus growing outside the hair; (2) a large-spored fungus growing inside the hair (*trichophyton megalosporon endothrix*); and (3) a large-spored fungus growing outside the hair between the root and the follicular sheath (*trichophyton megalosporon ectothrix*). The two latter are closely allied, being species of the same family.

These three fungi have distinctive morphological characters and breed true. They differ also in their pathological effects. The small-spored parasite causes lesions much more refractory to treatment than the large-spored fungi; it is responsible for ringworm of the ordinary type usually affecting the heads of children." The distinction between these forms is "not a mere academic question, but a point of great practical importance, for the forms of disease set up by the large-spored fungi are milder and less obstinate than that caused by the small-spored parasite. The affection produced by the *trichophyton megalosporon endothrix* does not last longer than a year, while that caused by the *trichophyton megalosporon ectothrix* can be cured in two or three months. The details of the method of staining are as follows:—A suspected hair is first steeped for one to two minutes in a mixture of a 5% alcoholic solution of violet gentian and anilin water (10 parts of former to thirty of latter); next it is dried with blotting-paper; then treated for one or two minutes with pure iodine and iodide of potassium in water; dried again; treated once more with anilin oil and pure iodine; then cleared with anilin oil, washed in xylol and mounted in Canada balsam. By this means the fungus is beautifully stained without blurring of its microscopic features, and it can be identified without any trouble."

Gaseous disinfectants or fumigants, such as sulphurous acid or chlorine as germicides are at best scarcely up to the anthrax standard, especially under the conditions of leakage and diffusion which are inevitable when the attempt is made to disinfect an ordinary room by fumigation. The slightest cover baffles them completely, and the feeblest germs which have made their way into crevices or into pockets are safe against pursuit. Why, then, is fumigation retained among the routine processes of disinfection if it is useless under

cover and uncertain in the open? For three principal reasons: Because there is no really effectual process to substitute for it, because the surface is the part that most needs disinfection, and because we are not sure that the unknown germs of scarlet fever may not be more amenable to slaughter than the sturdy anthrax spores."—*Practitioner*.

A CHEMICAL ANTIDOTE FOR CHLORAL POISONING.

The *Glasgow Medical Journal* for February publishes an article on this subject by Dr. John Dougall, of Glasgow. When chloral was first used, says the author, its hypnotic action was thought to be solely due to the generation of chloroform from it by the alkalies of the blood; its effects on the body generally were, and indeed still are, held as almost identical with those produced by chloroform. This view, however, he says, has been disputed on the grounds that the quantity of chloroform which a full dose of chloral is capable of producing is quite inadequate to cause the hypnosis and anæsthesia that have been observed, also that the greater part of the chloral is exhaled from the lungs unchanged, and that small quantities of it may be found in the urine, but no chloroform. Whatever facts or theories, however, says Dr. Dougall, there may be regarding the manner of the hypnotic and anæsthetic action of chloral, there can be no doubt about its chemical composition and affinities, and, in particular, that it is almost at once decomposed, at and above 60° F., outside of the body in an alcoholic solution of potash into formate of potassium and chloroform, and, as the author has proved by trial, somewhat less quickly in an aqueous solution of potash.

Assuming, he says, that a person has taken a poisonous dose of chloral, say eighty grains, and that there could with safety be given, as a chemical antidote, twenty-seven grains of potash, this amount being the quantity by weight in the formula

required to decompose eighty grains of chloral—in such a case, says the author, there are strong *a priori* grounds for assuming that in about fifteen minutes the chloral in the system would be entirely changed into formate of potassium and chloroform, or, at least, that so much of it would be decomposed that the residue would be harmless. But would not the potash, he asks, or the amount of its formate, or of the chloroform thus produced, be as lethal as the chloral? Undoubtedly twenty-seven grains of potash swallowed at once, even much diluted, would cause serious symptoms. But if even half that quantity was given in divided doses—say seven grains every hour—in warm milk, gruel, or barley-water, it seems very probable that by this means no serious irritation of the gastro-intestinal tract would be the result, and that in a short time so much of the chloral would be decomposed as to render the rest at least non-lethal.

The liquor potassæ of the *British Pharmacopœia*, says Dr. Dougall, contains about a grain of potash in sixteen minims, and the maximum dose stated is sixty minims. Hence, he says, to give seven grains of potash is equal to giving a hundred and twelve minims of liquor potassæ. He thinks it may be assumed that this quantity, highly diluted, might be given without fear of causing unfavorable symptoms. By this means twenty grains of the chloral would soon be decomposed, thereby neutralizing its lethal power to a certain degree, if the potash is given before the patient is too far gone to be afforded relief by this means; then, if in an hour after a similar dose of potash is given in the same way, this would reduce the chloral in the system to forty grains, a quantity quite within the bounds of safety for an adult, provided there is no heart trouble.

Dr. Dougall says that he has proved by experiment what has been stated by others—namely, that the carbonates and bicarbonates of potassium and of sodium also decompose chloral; but their action, par-

ticularly that of the bicarbonates, is very slow, and, besides, a much larger quantity than of potash is required, also a heat much above that of the body. With regard to the action of formate of potassium, it merely causes a peculiar eruption of the skin, which soon disappears when the use of the drug is stopped. This eruption is well known to habitual chloral-takers, and seems to prove that chloral is decomposed in the blood as stated.

With regard to the probable effects of the chloroform which would be generated by the decomposition of forty grains of chloral, the author finds that this quantity of chloral requires 13·5 grains of potash for its decomposition, which results in the production of 28·5 grains of chloroform, equal to 21·5 minims. As much larger amounts of chloroform (from half an ounce to four ounces) have been swallowed and recovery has followed, and as it is likely that the greater part of that which is generated in the blood by the decomposition of the chloral is exhaled as fast as it is produced, Dr. Dougall thinks that nothing serious need be feared on this point.

THE PATHOLOGY AND TREATMENT OF PRURITUS.

In the September number of the *British Journal of Dermatology* there is a report of a recent meeting of the British Medical Association at which Professor McCall Anderson, of Glasgow, read a paper on this subject. He dealt first with the anatomical features of the skin and their relation to the feeling of itching, then with the usual conditions in which itching was prominent, and finally with the treatment of this very troublesome symptom. He thought that the portions of the nervous apparatus of the skin especially involving the sensation of itching were as follows: 1. The free nerve terminations in the epidermis. 2. The small groups of cells taking the form of a cup and connected with nerve filaments situated in the deeper layers of epidermis or in the upper layers of the true skin. 3.

Each hair, in virtue of the fine medullated nerve fibres which formed a network in the outer coat of the hair and terminated in its sheath, was more or less of a tactile organ, and it was probable that irritation of the hair might cause pruritus. It was very difficult to say, he said, why pruritus was such a prominent feature of some diseases of the skin and generally absent in others, such as the strumous affections; how it was absent in the earlier and present in the later manifestations of syphilis. The author referred to some of the more prominent causes, such as that of the pruritus which occurred in old age, which he attributed to the circulation of impure blood; that which occurred in connexion with some cases of jaundice; that which came on in gouty persons, and in connexion with the functional derangement of internal organs, especially of the digestive organs; that which occurred in diabetics; that which occurred in connexion with the cold weather; and finally that which was dependent upon mental and not upon physical causes. He was of the opinion that most cases were dependent upon direct irritation of the nerve terminations in the epidermis.

Before entering upon treatment, said the author, it was very important to be sure of the diagnosis. All other disorders should be eliminated, such as urticaria, phtheiriasis, and scabies, in which the itching was but a symptom. A careful examination of the patient must be made in the light of its ætiological factors, and an endeavor made to correct any existing derangement. If the itching still persisted, then the disease must be treated empirically.

Professor Anderson expressed a preference for the employment of electricity, atropine subcutaneously, or the coal-tar derivatives, such as antipyrine and phenacetine, in gradually increasing doses. If, he said, there was any suspicion of nervous nutritive debility, nerve tonics, such as phosphorus, arsenic, and strychnine, alone or in combination, might be tried, the two latter preferably by subcutaneous injection.

Dr. H. G. Brooke, of Manchester, used the term pruritus as meaning the sensation of itching generally, and not as confined to those particular forms which were unaccompanied by lesions of the skin. The sensation of itching, he said, varied enormously from a mere transitory titillation to a state productive of mad frenzy in which the patient lost all self-control and tore and scratched his skin until he gained relief. Dr. Bronson considered itching as a perversion of the sense of touch, a dysæsthesia of the nerve endings in the skin. It was certain, said Dr. Brooke, that epithelium was necessary to the production of the sensation of itching, for it did not occur in wounds until the epithelial covering was being reproduced. The author then detailed the different factors which were associated with the occurrence of the feeling of itching, and divided them into two main groups as follows:—

Internal Group—Neurotic.—Purely nervous pruritus. The pruriginous diseases in which the pruritus was the primary disease had been laboriously studied by the French dermatologists, especially by Besnier, Brocq, Vidal, and Leloir, under the name of *névrodermites*. Reasons were given for objecting to the inclusion of some of the cases cited by these authors as examples of purely nervous pruritus, and for the probability that they were originally of local origin. But, said Dr. Brooke, there was no doubt that the recognition of the peculiar papular, brown, or bistrous-coloured, indurated state of the skin to which they applied the term lichenification or lichenization, as being a condition induced entirely by the action of long-continued scratching, was a distinct gain; it was entirely a secondary manifestation and not to be confounded, as it had been, with different chronic eczematous and lichenous eruptions. All itching diseases did not lead to lichenification, even if of long continuance. Senile pruritus was always quoted as the arch-type of this pruritus without prurigo class, in which there was a characteristic absence of secondary

lesions; but they were by no means always restricted to the aged, and they were not always distributed over the whole body. They might occur in younger people, even in infants, and they were at times restricted to some limited area of the body, such as the face, the hands, the tongue, the anus, and the genitals. The great majority of the cases of ano-genital pruritus did not belong to this class, but were of external (mostly seborrhoeic) origin; and those did not which, although exhibiting no external lesions, were caused by the presence of irritable nerve-endings, the destruction of which removed the symptoms. In the purely neurotic cases the origin was more central, and required the complete destruction or ablation of the offending regions for their cure.

When lesions were present in conjunction with pruritus it was always important, from a practical point of view, to determine whether the pruritus was primarily neurotic and the lesions were secondary, or whether the pruritus was secondary to lesions arising from other causes. Besnier, said the speaker, grouped all the various primarily neurotic itching diseases of this kind under the term *diathetic prurigos*. Their first and always prevailing symptom was pruritus. The lesions which accompany them were never distinctive or specific in character, but of an erythematous or lichenous kind at first, and, especially at the later stages, presented some form of lichenization or eczematisation in one or more of its varied manifestations. The diathesis might forsake the skin temporarily or finally, to re-appear in the lungs as bronchitis or asthma, or in the nose as hay fever, or sometimes in the gastro-intestinal tract; it might wear itself out by degrees and disappear finally, but, in Besnier's opinion, it was not amenable to any treatment. Dr. Brooke remarked that he could not agree to this prognosis, for he had found that much could be done to influence and even to effect the recovery of many of these forms of pruritus. The conditions, he said,

were certainly more unfavorable when the disease was hereditary or congenital. The essentially pruriginous group of papular, vesicular, or pemphigoid affections were usually of neurotic origin, although the influence of gastro-intestinal troubles and of certain foods in producing, or rather in precipitating, outbreaks showed that they were by no means exclusively so. Urticaria, in like manner, said Dr. Brooke, might be of a purely neurotic character, and it was well known that a shock or even a mere thought might suffice to bring on an attack of wheals and itching. Itching was also found as a preliminary symptom of some of the severer forms of nerve disease, and Leloir had described several of these prodromal forms of pruritus under the name of *dermatonévroses indicatrices*.

Lastly, there were the forms of itching which Crocker had designated *pruritus mentis*, in which the patients suffered incessantly from severe itching, which they attributed to some purely imaginary ailment; this was really a form of monomania.

Reflex Nervous Pruritus.—Reflex itching, said Dr. Brooke, occurred at times almost to every one. A point on the skin was noticed to itch from no perceptible cause, and perhaps momentarily, and the sensation was immediately followed by itching at one or more points, often quite remote from the original point and from each other. It was merely interesting as showing the wide area over which even a slight and very limited pruritus might be reflected.

Pruritus which was caused secondarily by reflexes from internal organs, or from some kind of mechanical or chemical irritant, was not uncommon. As instances, the author cited the itching which preceded or accompanied the development of serious intestinal or gastric disease, such as carcinoma; the itching which accompanied pregnancy and diseases of the uterus; the general itching caused by the presence of tapeworms in the intestines; that due to the action of gritty food, such as oatmeal; the itching at the end of the penis excited

by stone in the bladder, and at the end of the nose by the irritation of ascarides in the rectum. The itching which was caused by the action of cold and heat on the skin came probably into this division, for in the affections known as pruritus hiemalis and æstivalis, it did not occur on parts of the body which were the most exposed to the heat and cold, but, and especially in the pruritus hiemalis, on well-protected regions, and even when the patient was still in bed, until tolerance of the frost had been established. The symmetrical angeioneuroses which often accompanied winter pruritus also suggested the reflex rather than the direct action of the cold. Urticarial eruptions which had been excited by the action of cold to one part of the body might extend far beyond the original field of action, and develop reflexly a more or less widely dispersed pruritus.

Hæmatic.—A very frequent, distinct, and, in the minor degree of development, not unfrequent class of pruritic cases were those in which the itching was caused by the irritation of toxic substances which had been produced in the body and circulated in the blood current. The itching in diabetes, in gout and lithæmia, in rheumatism, in kidney disease, and in jaundice were cited by Dr. Brooke as examples. They were often, but not invariably, accompanied by some angeioneurotic eruption, generally erythematous or urticarial in character. A similar condition was sometimes caused by fermentative processes taking place in the bowels, and was relieved by the administration of antiseptics. The urticarial pruritus of children was found to be very frequently associated with the presence of rhachitis, and seemed to be the result, in large measure, of the dilated stomach and consequent imperfect digestion which was so general in these cases.

The presence of irritating matter in the blood often exaggerated itching, which was due primarily to other and often external causes; gouty conditions and imperfect

action of the heart had this effect. Besnier thought that many cases of pruritus senilis were brought on by such states of the blood rather than by nerve degeneration.

Idiosyncrasy was always an essential factor in hæmatic pruritus, for only a small number of those who were the subjects of blood poisonings of these kinds showed any tendency to irritability of the skin.

Foods and Drugs.—The same remark, said the author, also applied to the pruritus which sometimes followed the ingestion of certain foods and the exhibition of certain medicines. Thus some people complained of a vague irritation of the skin after partaking of quite ordinary foods and drinks, such as tea, coffee, alcohol, cheese, etc., while mercury, belladonna, and especially opium, were known to excite itching, often of a pronounced character in special patients. The presence of symmetrical erythematous and other lesions showed that the poisons might attack the nerve centres as well as their terminations.

Mechanical Pressure.—The itching of hæmorrhoids and of the genital region in cases of pregnancy were apparently due to the pressure of the blood in the engorged venous plexuses, for it occurred apart from any skin lesion and disappeared when the pressure was removed.

Abnormal Secretion of the Skin.—The skin of otherwise healthy people was disposed to itch at times on account of its abnormal deficiency of lubrication. It had been attempted to explain this as the result of interference with the excretory functions, but the view that it was caused by the formation of minute fissures and the partial exposure of the nerve terminations was more probable, for although the relief derived from sudorifics would tally with both these hypotheses, the relief which was given by simple lubricants in limited patches of slight ichthyosis (which presented very similar conditions) gave stronger support to the latter explanation, and it was known that the healthy kidney very completely

compensated any deficient action of the skin.

External Group.—The various external causes, said Dr. Brooke, which give rise to pruritus were divided into three headings: 1. Local skin diseases. 2. Epizootic parasites. 3. Irritants of a physical and chemical nature. It was impossible, however, to separate them very clearly from each other. The first and most important point, he said, was to determine whether the itching was due entirely to the local lesion of the skin, or to some systemic condition. This was easy in such diseases as ichthyosis, but very much more difficult in affections like lichen planus, psoriasis, and certain seborrhoeic and acute eczematous eruptions which might appear suddenly, and in people who were in other respects quite healthy. But whatever theories were held as to their causation, they were always treated as if they were due to a local excitant, and more reliance placed on local than on internal remedies. Acute eczema was one of the most prolific sources of pruritus, and many of the cases were of undoubtedly parasitic origin. The eruption generally spread because the system was debilitated and the sensory and vaso-motor nerves in an easily excitable condition; but this state might supervene secondarily to the loss of rest caused by the incessant itching of one or two limited areas. It was known that the itching provoked by several substances such as the poison of the *Acarus scabiei*, of some of the primula species, and of iodiform might be transmitted in some individuals by absorption, or directly by the nails during scratching, over a wide surface of the body, and that it might give rise to typically eczematous rashes, and it was thus suggested that the extension of parasitic eczemas, or of eczema which had become parasitic (judging from their mode of extension), might, in like manner, be due to the transmission of infective substances by absorption or by scratching, over previously healthy areas of the skin. A knowledge of

the possibility of such a mode of extension, said the author, was a valuable aid in the treatment of some of these pruritic eruptions, and might help to explain why so many of our anti-pruritic remedies were of the disinfectant and bactericide class.

The itching, which was brought on by sudden changes of temperature, more especially by sudden exposure to cold, as when the patient rapidly undressed and got into bed, was perhaps due in part to the rapid removal of pressure from the skin, for it occurred in healthy skins; but in the case of inflamed lesions it was more probably attributable to the inability of blood-vessels to accommodate themselves at once to the change of blood pressure; it was, perhaps, by correcting this inequality that warm applications were able to relieve the pruritus so markedly. Change of posture from the upright to the recumbent was also a well-known provocative of itching, presumably also from alteration in the blood pressure in the direction of increased tension.

Except through the intermediation of some lesions, such as dermatitis, chilblains, sudaminous and miliarial eruptions, heat and cold seldom produced itching by their direct action on the skin. The action of the actinic rays of the sun might set up intense pruritus, but it also was confined to the area of the lesions which they caused to appear, as in the urticaria which might start out after even a momentary exposure to the diffused light of a summer day, or in papules and erythematous blotches of the prurigo æstivalis group of affections.

The pruritus which was caused by contact with certain drugs and plant poisons was often very severe, and its origin might easily escape notice, since any accompanying eruptions, which might be present, were seldom pathognomonic. It was, however, said Dr. Brooke, most important to investigate such cases, since they were generally due to an acquired idiosyncrasy toward some article of daily use. The action of rough underclothing was referred to as a common source of

itching, even in merely irritable skins, and as a not infrequent agent in the spreading of a local disease through the scratching to which they gave rise.

In most of the cases in which pruritus was present it was but a symptom, but it was the symptom from which the patients were most desirous of being relieved, and it was for this symptom rather than for the disease that they sought the doctor's help.

IZAL AS A DISINFECTANT AND ANTISEPTIC.

In the *Medical Chronicle* for September there is a report on izal by Professor Sheridan Delépine, of Victoria University. Among the most remarkable features of this compound, he says, are its comparative insolubility and non-volatility at the ordinary temperature, properties which it seems difficult to associate with an active disinfectant, but which numerous experiments have proved not to be incompatible in this case. Izal can be freely administered internally, used over extensive wounds, or injected under the skin without bad effects, and does not damage surgical instruments.

As it was the author's intention to study carefully the effects which certain disturbing factors might have on the results obtained, he investigated the action of izal on a small number of germs. He selected them so as to get types of the most important forms of pathogenic bacteria which one might have to deal with in practice. These organisms were the *Bacillus tuberculosis* (*hominis*), the *Bacillus coli communis*, the *Staphylococcus pyogenes aureus*, and the *Bacillus anthracis* (in the sporing stage). In the course of the last seven months he has conducted over a hundred experiments with these four microbes, paying special attention to the conditions of growth, temperature, dryness, age of germs, etc., which might be expected under ordinary circumstances to influence the resistance of bacteria or the activity of any disinfectant.

The Action of Izal on the Tubercle Bacillus.—Sputum obtained from a case of ad-

vanced phthisis and found teeming with tubercle bacilli was allowed to dry on paper for seven days, being kept during that time in a closed capsule in the dark at the temperature of the laboratory (15° to 20° C.). Pieces of paper so prepared were then severally steeped in izal, in izal one part of which had been diluted with five parts of water, and in izal diluted with ten parts of water. In each case the infected paper was allowed to remain in the disinfecting fluid for forty-five minutes, after which it was removed and inserted under the skin of a guinea-pig. In a check experiment, paper smeared with the same quantity of the same sputum, and prepared at the same time and in exactly the same way as the other pieces of paper, was also inserted under the skin of a guinea-pig of the same age and size as the other guinea-pigs. In all the cases in which the sputum had been treated with izal, fifty-four days after inoculation no evidence of tuberculosis was found post mortem, even at the seat of inoculation; while in the check animal tuberculosis was already well marked on the twenty-seventh day and very advanced on the fifty-fourth. Similar results were obtained with paper smeared with scrapings of a tuberculous gland obtained from a case of recent general tuberculosis, the tubercular matter being allowed to dry as in the previous case. Fresh tuberculous matter from a cheesy lymphatic gland (tuberculosis of fifty-six-days' duration) was made into a thick emulsion with sterilized water. This was mixed with izal, one part of which had been diluted with ten parts of water, and after two minutes the excess of izal was removed with sterilized filter paper. The thick pulp left was allowed to dry for twelve hours and then a guinea-pig was inoculated subcutaneously with it. A check guinea-pig was inoculated with exactly the same quantity of a part of the original emulsion of cheesy gland which had not been treated with izal. After fifty-four days the first animal showed no trace of tuberculosis at

the post-mortem examination. The check animal was already in an advanced state of tuberculosis at the end of three weeks, and the disease was found, post mortem, to be extensive fifty-nine days after inoculation.

The author deduces from these experiments that izal mixed with ten parts of water will disinfect in forty-five minutes dried tuberculous sputum or other tuberculous matter, and that fresh tuberculous products of great virulence, when mixed with about an equal quantity of izal of the same strength, and allowed to dry at the ordinary temperature for twelve hours, are also completely disinfected.

He is unable to state how much shorter time or greater dilution the disinfectant will admit of.

In interpreting the results, he says, it is necessary to remember that the *Bacillus tuberculosis*, though not known to be a sporing organism, is one which is not easy to kill under ordinary circumstances. This is due to the bacillus being usually imbedded in thick mucus or in cheesy products which effectually offer a barrier to some of the best chemical disinfectants (owing to their being usually at the same time capable of causing coagulation of albuminous compounds). The great resistance which the bacillus presents to the effects of drying is another reason why it is so difficult to kill, for, as desiccation is not fatal to it, the germ may remain active in the midst of masses too dense to be penetrated by disinfecting solutions of poor penetrating power or incapable of acting for a considerable length of time.

The Action of Izal on the Bacillus Coli Communis.—The bacilli used in these experiments had been obtained from fatal cases of Asiatic cholera. Before being used the microbes had been cultivated for nine days on potato, and the growth then scraped off and mixed with sterilized alkaline broth. With the emulsion so obtained silk threads were impregnated. These threads

were allowed to dry for six hours in a sterilized capsule in the dark, the temperature being about 15° to 20° C. After this they were placed severally in izal diluted with five, ten, fifty, a hundred, and two hundred parts of water, and allowed to remain in the mixtures for one minute in the case of the stronger solutions and for ten minutes in that of the weaker ones. After this they were transferred to tubes containing alkaline bouillon, some being previously washed in sterilized water, others not. Check threads that had not been exposed to the action of the izal, but had been kept in sterilized water for the same length of time as the other threads had been, were also cultivated in alkaline bouillon. After twenty-four hours at 36° C. the check tubes showed a typical growth of *Bacillus coli*, but there was no growth in any of the tubes containing threads which had been dipped in izal. These tubes were watched for twenty days, and during the whole of that time no trace of growth could be discovered. This absence of growth was tested not only by microscopical examination, but also by plate cultivations in nutrient gelatine and agar.

It is therefore evident, says the author, that izal diluted with two hundred parts of water is a safe germicide for micro-organisms as resistant or lest resistant than the *Bacillus coli communis*.

The Action of Izal on the Staphylococcus Pyogenes Aureus.—The *Staphylococcus pyogenes aureus*, one of the most resistant cocci, is widely distributed in external media, says the author, and is undoubtedly one of the commonest causes of suppuration. It was, therefore, a fair specimen to use for testing the value of izal in the treatment of ordinary wounds. In this case fresh cultivations of agar were made, and after being kept for forty-eight hours in the incubator at 36° C. the tubes were left for twenty-four hours more at the temperature of the laboratory. The growth was then scraped off and spread thickly on

small pieces of sterilized filter paper. The paper so infected was allowed to dry slowly at the ordinary temperature in a sterilized capsule, kept in the dark, for three hours. These pieces of paper were then steeped in izal diluted either with one hundred or two hundred parts of water, and left in the mixture for two hours, one hour, or ten minutes. After these various exposures the pieces of paper were removed, washed carefully in sterilized water, and dropped into tubes containing alkaline bouillon. In a check experiment the paper was left in sterilized water for the same length of time as the other papers had been left in izal and then transferred to alkaline bouillon. From none of the papers treated with izal diluted with one hundred parts of water could any growth be obtained. The same was true when izal was diluted with two hundred parts of water, except when the exposure was not more than ten minutes in duration. The bouillon inoculated remained clear for three days (during which it was kept at a temperature of 30° C.), and at the end of that time it was impossible to obtain any evidence of growth by plate cultivations in nutrient gelatine. A sufficiently large quantity of the bouillon was used in each case to prevent any chance of error. In the check experiments a well-marked growth was obtained at the end of twenty-four hours, and at the end of thirty-six hours the bouillon was very turbid. Plate cultivations made with this culture proved that nothing but the *Staphylococcus pyogenes aureus* had grown in the bouillon.

From this it seems evident to the author that izal diluted with one hundred parts of water is a reliable antiseptic for the dressing of surgical wounds made with the usual antiseptic or aseptic precautions.

The Action of Izal on the Bacillus Anthracis.—In making experiments with the *Bacillus anthracis* it was not thought necessary to study the action of izal on the

non-sporing organism. Spores of great virulence were used. These spores were prepared in the same way as those which had been used in previous experiments and been found to resist ordinary disinfectants in usual dilutions, with the exception of the most powerful chemical agents. Judging by the results obtained with carbolic acid the author did not expect that izal would be capable of killing these spores in a reasonable time, and the results justified his expectations. The most interesting results obtained were those proving the remarkable inhibitory power which even diluted izal had on the growth of the anthrax spores. Thus in alkaline bouillon to which the one hundredth part of izal had been added it was impossible to get the spores to show any sign of growth, even when kept at a temperature of 36° C. for seven days, no precaution been taken to prevent the volatilization of izal. The spores, however, were not killed, for after thorough washing in sterilized water and cultivation in fresh bouillon an abundant growth was obtained.

The author sums up by saying that izal diluted with one hundred or even two hundred parts of water is a powerful and reliable antiseptic when contact for a sufficient length of time is secured. As an antiseptic it is more powerful than carbolic acid, and as it causes very little irritation of living tissues, as in moderate doses it is not poisonous, and as, practically speaking, it is not volatile, there can be little doubt as to the immense advantages which it possesses over carbolic acid.

A METHOD OF PREVENTING THIRST FOLLOWING CÆLIOTOMY.

Dr. W. H. Humiston read a paper thus entitled. He said: "No one who has had any experience in the after-care of abdominal cases will deny the important place that thirst occupies. It is the one promi-

ment, annoying, and distressing symptom, and I know it can be overcome. This is my method of procedure: The patient should have the usual preparation for cœliotomy, i. e., by diet, daily baths, cathartics, etc. For three days prior to the operation order the patient to drink a pint of hot water an hour before each meal and on going to bed, thus drinking two quarts of water each twenty-four hours, the last pint to be taken three hours before the time set for operating. Do not omit to give the water on the day previous to the operation, while the patient is restricted to a limited amount of liquid nourishment and the bowels are being unloaded. We thus restore to the system the large loss of fluid occasioned by the free catharsis, and we have the great satisfaction of seeing our patient pass through the trying ordeal of the first thirty-six hours after the operation in comparative comfort, with no thirst, with a moist tongue, and with an active renal function represented by an excretion of from twenty-eight to fifty fluidounces of urine during the first twenty-four hours, catheterism being seldom necessary. This is in keeping with the full character of the pulse noted.

"These details I have recently carried out in twelve cases. In eleven, chloroform was administered; in one, ether. The time required to complete the operation varied from ten to fifty-five minutes. Whether the case was one of sclerotic ovaries or a purulent case with adhesions of all the pelvic structures, the result has been uniform and highly satisfactory, thirst being allayed and excretion stimulated.

"I believe this method will prove to be efficient in the hands of abdominal surgeons generally, and I publish it early with all confidence that the twelve cases that I have had will soon be fortified by the reports of many hundreds, and that by it we may avoid a condition that is and has been distressing alike to the patient, to the surgeon, and to the nurse."

THE QUALITY AND QUANTITY OF AN INFANT'S FOOD.*

BY B. VAN D. HEDGES, M. D.,

Plainfield, N. J.

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Given a healthy baby, one that has successfully passed the upper and lower narrows and disembarked from the troubled waters without bruise or blemish, what treatment has this child a right to demand at our hands during the earlier months of its existence, first as to the quality, and again as to the quantity of food it shall receive at each nursing? These are the two specific problems that will demand our exclusive attention, realizing that we are dealing with the healthy and not the sick child.

It also seems opportune that we should give our best thought to this subject at this particular time of year, when we are brought face to face with a high infant mortality, a mortality that we can only too often directly trace to errors in diet that might have been avoided.

I say, what treatment has this child a right to demand? If the mother is in good health, with sound nipples and a good flow of milk, the child's right is unquestionably clear and plain. The time has not yet arrived, nor do I believe it will ever come, when the refinements of the laboratory can improve upon Nature's method of rearing her young. I have no sympathy with the mother who, under such circumstances, refuses the nourishment specially designed by Nature for that special child; far better for her not to enter at all upon the obligations of married life than to shirk what is her plain duty and what ought to be her pleasure.

* Read before the Union, New Jersey, County Medical Society, July 10, 1895.

And yet, willing or unwilling, the presence of certain conditions would contraindicate the following out of Nature's plan. Syphilis and tuberculosis are very positive barriers in the best interests of both mother and child. Again, we meet with cases where the mother appears perfectly healthy, the quantity of milk sufficient, and yet the child does not thrive. In all such cases it is our duty to make a careful analysis of the milk, and for this purpose Holt's apparatus is the most convenient and accurate for the busy practitioner. If the sample, taken from the middle nursing, shows a specific gravity of 1.018 to 1.024 and a cream of only two or three per cent. the case is hopeless.

But with the growing demand of our enlightened civilization, breast nursing, especially among the better class of people, is becoming more and more a thing of the past. Artificial feeding has come, and has come to stay. How we can best adapt ourselves to these forced conditions is the problem that presents itself to us to-day and our success or failure in its solution will depend upon the exactness with which we can make our artificial food correspond with Nature's product.

We will first consider the character and quality of our substitute food. Cow's milk, taken from the mixed product of the dairy and not from any one single cow, should be our main reliance. It is moderately uniform in quality, can always be obtained at a reasonable cost, and can be made to resemble mother's milk more closely than any other preparation. And yet the difficulty of obtaining a pure, fresh supply, one that is absolutely reliable, especially in the warm summer months, has been in the past and is still a serious problem.

Most excellent work, along these very lines, has been done in our own State during the past few years by Dr. Henry L. Coit, of Newark. With the co-operation of the physicians of Essex County, a model

dairy has been established about six miles from Montclair. The herd is regularly inspected by a skilled veterinarian, and all animals presenting even a suspicion of disease are rejected. The character of the pasturage and food is carefully supervised. The cow's udder and the hands of the milker are subjected to a most thorough cleansing before each milking, and the milk itself passes first through a strainer into a closed pail, and thence immediately to a cold storage apartment. The services of a bacteriologist are constantly employed to determine the number and character of the bacteria present. The owner of the dairy places himself under heavy bonds to see that these regulations are faithfully and strictly carried out, and in return the physicians promise him their aid and co-operation. In this way the initial, prime supply is rendered almost absolutely pure and at a cost of only a trifle more than the regulation prices. Dr. Coit writes me that the undertaking is a most marked success in every way, and there is no reason why such a plan should not be put in successful operation in other large towns. A tour of inspection to the different dairies, such as I made last summer, and a close observation of the methods of milking and the care of the cows, will impress one with their absolute filthiness and neglect of many of the commonest laws of decency. And yet this is almost the sole food supply for a large portion of our population. We have it in our power, as physicians, to remedy this evil. Dr. Coit and the physicians of Essex County have shown us the practical working success of a model dairy, and I believe the day is not far distant when we will demand and secure similar advantages throughout the State.

But in order to make our cow's milk approach the normal standard of breast milk it needs modifying, and we need, ourselves, definite, clear ideas as to the exact chemical composition of each.

	Woman's milk	Cow's milk.
Reaction.....	Alkaline.	Acid.
Coagulable albuminoids..	Proportionately small.	Large.
Coagulated by acids.....	Not perceptible in test tube.	Very marked; not perceptible when diluted 1 to 5
Water.....	87 to 88	86 to 87
Total solids.....	12 to 13	13 to 14
Fat.....	4	4
Albuminoids.....	1	4
Milk sugar.....	7	4.5
Ash.....	0.2	0.7
Bacteria.....	Not present.	Present.

The foregoing table, prepared by Dr. Rotch, of Boston, gives the result of careful analysis of breast milk, taken from the middle nursing, compared with cow's milk about twenty-four hours' old.

It will be seen at a glance that the main difference lies in the albuminoids, the milk sugar, and the reaction, the fat remaining the same in each case. But reduce the albuminoids to their proper proportion and our fat and milk sugar suffer.

Dr. Meigs, of Philadelphia, was a pioneer in solving this problem, and he has furnished us with a formula which, slightly modified, is one of the best we have to-day. I say the best, because it corresponds most closely with mother's milk, and the proportions are so very simple and easy to remember :—

Milk..... 1 part.
 Cream..... 2 parts.
 Limewater..... 2 „
 Sugar water (dr. j to oz. j) 3 „

The re-action is alkaline, the albuminoids are reduced to one per cent., the fat and milk sugar both in proper ratio.

Originally under the supervision of Dr. Rotch, of Boston, there have been started in our large cities milk laboratories where the acme of refinement and accuracy has been reached in the matter of infant feeding. The milk reaches the city from a model dairy in the suburbs about six hours after milking; it is then separated

into its various constituents by delicate machinery and synthetically reconstructed according to the needs of each individual baby, as indicated by the prescription blanks, which are filled out by the physician in attendance and then sent to the laboratory.

The ability to thus regulate the albuminoids in the earlier weeks of life, without diminishing at the same time either the fat or sugar, is one of the most admirable features of our prescription laboratory.

A few drops of acetic acid added to a test tube of mother's milk produce no appreciable curd; to the same amount of undiluted cow's milk, large thick white curds are immediately precipitated, and it is only when the dilution is carried as far as one to five that we escape this mass coagulation. Excessive albuminoid digestion, and the resulting inability of the stomach to cope with the tough coagulum, I believe is the starting point of many of our gastric disorders. With new-born infants it has been my custom, and invariably with good results, to reduce the albuminoids as low as a half of one per cent., gradually working up to the standard at the end of a few weeks.

The milk laboratory is a scientific, rational method of infant feeding, a method which has already gained a firm foothold in Boston, New York and Philadelphia, and one that has come to stay. The total amount necessary for the twenty-four hours is delivered each morning in separate bottles that have all been sterilized and neatly packed in wicker baskets.

So far, we have imitated Nature in the preparation of our food, as far as the ratio of the different ingredients is concerned. But mother's milk is absolutely sterile; cow's milk under the very best auspices contains bacteria. It is interesting to know that germs are always found in the main duct of a cow's teat for a distance of half an inch from the tip, even with the very best of care. And so the necessity of either

sterilization or pasteurization is at once apparent. Personally the writer prefers the latter method, mainly because the product is more palatable to the child. In a series of experiments carried on by Dr. R. G. Freeman, of New York, it has also been found to be equally efficacious in destroying the disease-producing germs.

The doctor's pasteurizer, specially designed by him for this purpose, makes the details of the process very simple and within the mental grasp of the dullest nurse; or an ordinary Arnold steam sterilizer, with a perforated lid, answers the same purpose.

We have said nothing so far of the different artificial foods, whose number, like the different cures for whooping-cough, is legion. I am opposed to their use in a healthy child, because they introduce into the infant's stomach elements which Nature never intended to be put there. Again, analyses made from time to time often show a marked variation in their composition. Commercial enterprise, and not the good of the infant, is the governing motive of the manufacturers. As a result the public suffers.

Of the different preparations I am inclined to give condensed milk a leading place. It is practically sterile and moderately uniform in its composition. It is cheap, easy to prepare, and among the poor and destitute, where cleanliness is often an unknown quality, but boiled water always a possibility, it offers many advantages. Its low percentage of albuminoids, when diluted one to twelve, gives us a food easy to digest, neutral in reaction, but lacking in potential energy by virtue of its small amount of fat. The baby apparently thrives, often grows fat, and yet I think it is a common experience with all of us that such infants lack the staying qualities which their size and appearance would give us a right to expect. The production of animal heat is very necessary to the active metabolism of the growing child, and

unless we add a certain amount of cream our mixture is far from perfect. A scant teaspoonful to the ounce corrects this deficiency, and gives us about four per cent. of fat—the percentage in normal breast milk.

The use of peptonized foods, which at one time seemed destined to crowd out all other forms of feeding, is fortunately being rapidly relegated to its proper position. Its value in certain forms of gastric disturbance may be unquestionable; but Nature never intended to have this normal function usurped in the healthy child, and I believe the foundation for a weak digestion and much subsequent dyspepsia, has in many instances been laid by the use of peptonized foods. Idleness means atrophy and degeneration in a gastric follicle as well as in a striped muscular fibre.

Imperial granum, Nestle's food, and Carnrick's food, all contain unconverted starch; and why an infant only a few days old should be called upon to digest an element for which it is totally unprepared is a mystery to the writer. We know that the starch-converting functions of the salivary and pancreatic glands only begin to be developed at about the third month. Mother's milk never contains this element which in itself should be our warrant for withholding it absolutely.

Mellin's food, unless diluted with milk, gives us a food very low in the albuminoids and fat. Even then, with its fifty per cent. of starch converted into glucose, we are doing for Nature what she intended to do for herself. Why not add the milk sugar originally, and allow Nature, in her own good way and time, to complete the process?

And so we might go on through the long and ever-increasing list of patent foods, finding in them all either a serious omission or a meddlesome addition. They are made possible only by the tolerance and active assistance of the medical profession, and it seems to the writer that it is high time

we awoke to a sense of our responsibility in the matter. The more closely we can copy Nature in our efforts to raise the bottle baby the more successful will we be. With cow's milk, properly modified and properly prepared, I believe we have a mixture which more closely approaches the standard than any of the artificial preparations.

We now come to the consideration of the proper amount for each feeding. Our mixture may be ideal in very respect, and yet a child's health is made or marred as often by the quantity as by the quality of its food. While resident physician at the New York Foundling Hospital I became very much interested in this subject. I shall never forget one wizened, pinched little creature, only six weeks' old, brought to us with the diagnosis of a "touch of marasmus," and indeed it was a "touch," for the grim monster already had the life of the little one firmly in its grasp. "The child was a trifle fretful and nervous," the nurse went on to explain, "and we found it was quiet only with a bottle in its mouth." And so they had been in the habit of feeding this infant a mixture of six ounces every hour to an hour and a half. The bottle was no sooner emptied than it vomited the entire amount. With its hunger still unsatisfied it cried for more, only to have the same process repeated until death came to relieve it of its misery. How often we see a repetition of this same scene! Hundreds of babies die every year from *overfeeding* where only one succumbs from being fed too little. I only wish I might have preserved this stomach as we saw it the next day at the autopsy. Dilated to three or four times its normal size by this continual stretching process, with the muscular tone so destroyed that peristalsis was no longer possible, the walls so thin that they looked like tissue paper, no wonder that all the normal functions were held in abeyance. We all know that if we subject elastic tissue to prolonged and

excessive stretching, it soon loses its resiliency and refuses to return to its normal condition. And yet we seem callous to the fact that this principle holds just as true when we subject the stomach to an unnatural strain. I believe that many of our cases of dilated stomachs in after life, and atonic dyspepsias, can be traced directly to this overdistention in infancy.

Being interested to know just how much the stomach in its normal condition ought to hold, we selected children for autopsies who had died of some trouble other than gastro-intestinal. The results were most interesting and I have brought with me this afternoon some of these stomachs, one of which has been kindly prepared by Dr. David Bovaird, and in separate bottles the amount each held by actual measurement. These measurements were made at the time of the autopsy, and before the stomach had been subjected to the action of any hardening or preservative agents. With the pylorus closed the water was allowed to pass in through the cardiac opening from a funnel held about two feet above, insuring the natural amount of pressure. We found the size of the stomach bore a direct ratio to the size and weight of the child. Snitkin, from a long series of carefully conducted experiments, concludes that the average capacity is about one one-hundredth of the child's weight. Thus a child having an initial weight of seven pounds would have a gastric capacity of a little over an ounce, while its brother, who may have weighed twelve pounds, would have nearly double. He also found that the capacity increased at the rate of about fifteen grains a day. We found the average capacity for an average child under one month between one and two ounces; at the third month, between three and four ounces, or, in other words, a gain of about an ounce a month until the sixth month. If I ordered my grain dealer to put fifty bushels of oats in a bin that only holds ten, he would rightly deem me a fit subject for hospital treatment,

and yet we constantly see nurses and mothers forcing a five- or a six-ounce mixture into the stomach of a child only a month old. The one is as rational as the other.

Another series of experiments that we carried on were of interest in determining the amount of milk a healthy child gets from the breast at each nursing. With delicately adjusted scales we weighed a series of babies at different ages, before and after nursing, and found the result corresponded very closely with the normal size of the stomach at these different periods. And just in this connexion I would like to mention the advantage of weighing the babies regularly every week on an accurate pair of scales. A gain of a half to three quarters of an ounce a day indicates that we are making satisfactory progress. Below this average something is wrong, and often it is the first index, the first straw that shows us the fact that the child is losing ground.

In conclusion, then, I would like to emphasize my belief that we are absolutely powerless to improve upon Nature's method of caring for her young. At the New York Foundling Hospital during the last twenty years the attempt has been faithfully made time and again to find a satisfactory substitute for mother's milk, only to end each time in a dismal failure. The healthful condition of the two thousand little waifs under their control is proof positive of the value of breast nursing, the only system employed there to-day.

But with the impossibility of obtaining mother's milk, we would advise the use of cow's milk, so diluted with cream, lime-water, and sugar water as to form a ratio of one, two and three, using this sterilized or pasteurized mixture in preference to all forms of so-called patent foods, because it resembles most closely Nature's own product.

Again and finally let us remember the normal size and capacity of the infant's stomach.

THE PREPARATION OF ASEPTIC CATGUT BY MEANS OF FORMALIN.*

BY R. H. CUNNINGHAM, M.D.

(From the Physiological Department of
Columbia College, New York.)

While engaged upon certain experiments necessitating the use of fairly slowly absorbable sutures, I determined to try the effect of hardening catgut in the now well-known histological hardening reagent, formalin, and the results from this procedure are so interesting to myself that a brief report of them will prove, I hope, equally interesting to others who may not have tried it already and who may desire to use sutures or ligatures prepared according to the method described below.

Since the discovery of Berlioz and Trillat in 1890 that a solution of formalin of 1 to 5,000 parts was capable of preventing the growth of micro-organisms in meat juice, a number of writers (Hauser, Aronson, Lehman, Gegner and others) have satisfactorily demonstrated its great potency as a germicide. Its employment in very dilute solutions for sterilizing instruments and the hands has been advised by several investigators, but it should be used in very diluted form, for if a concentrated solution is applied to the skin a peculiar necrosis occurs that is unaccompanied by the usual signs of inflammation.†

More to the object of this paper, however, is the property that formalin possesses of uniting with gelatin and with albumin to form insoluble compounds. Thus if a film of gelatin, such as one gets on a photographic gelatin dry plate, is immersed in a solution of formalin for some hours, it is impossible to dissolve the now changed film, even with prolonged boiling in water.

* Read by invitation before the Section in General Surgery of the New York Academy of Medicine, April 8, 1895.

† Gegner. Ueber einige Wirkungen des Formaldehyds. *Munch med. Woch.*, 32, 1893.

If commercial surgical catgut is wound not too tightly on a glass spool and soaked for two days in a mixture of absolute alcohol and ether (equal parts of each) to thoroughly remove the grease, then rinsed in alcohol for a few moments,* and from this removed to a small jar that has a tightly fitting cover and which contains enough of a mixture of equal parts of formalin and alcohol to well submerge the catgut, after several days the catgut may be removed and the formalin washed out by soaking it several times in fresh alcohol, or, what I consider more preferable, it may be transferred to normal saline solution and *boiled* for half an hour or more and then be transferred to alcohol and preserved therein as is usually done.

When catgut has been treated with this alcohol-formalin mixture a very peculiar change as regards some of its properties will be found to have occurred. It does not become stiff or brittle, and even after boiling in water for some hours it loses practically none of its former strength, nor does it disintegrate in boiling water as is the case with catgut prepared by the methods generally in vogue.

The fact that it can be boiled without destroying it is very important for a number of reasons, but the three given below will suffice for present purposes.

It facilitates the complete removal of the irritating formalin from the catgut, as both formalin and alcohol are readily soluble in water.

Secondly, a more aseptic state of the gut is produced by the antiseptic properties of the formalin.

Lastly, it becomes still more surely aseptic as well as non-irritating from boiling in normal saline solution into which the spool of catgut can be put just at the beginning of a surgical operation and in this way avoid bringing alcohol, oil of

* This preliminary treatment may be omitted if one so desires.

juniper, etc., in contact with delicate membranes and other tissues.

The advantages gained from the employment of animal ligatures and sutures rendered *positively* aseptic by this method are obvious, so that further dissertation thereon is needless.

In conclusion, I would add that other animal substances, such as decalcified bone drains, bone buttons and rings, rings of catgut after Abbe, etc., will give equally good results with the formalin method, and may be used on such occasions as require a not too early softening or absorption of the animal substance that is employed.

KEROSENE IN SURGERY.

BY A. SCHIRMAN, M.D.

I desire to put on record the following therapeutic novelty to enrich the arsenal of surgical remedies:—

In cases of wounds and ulcers of the trunk and of the limbs in persons of the poorer classes the treatment employed was, according to the pathological septic conditions, by the usual antiseptic methods; but I found that recovery progressed very slowly, on account of the fact that time and circumstances did not allow the patient to apply these preparations as often as necessary.

For this reason I determined to try some other substance as an antiseptic, and it occurred to me to try the effect of kerosene in these cases.

For this purpose, in cases of ulcers, especially atonic and indolent ulcers, I smeared them with commercial kerosene, either pure or diluted (from thirty-three to fifty per cent.) with alcohol, with a small camel's hair brush or with a piece of gauze soaked in the solution. Shortly after the application a burning sensation was felt, but it soon passed away.

The appearance and character of the ulcers showed a change for the better; the discharge gradually diminished, and in the

course of from two to four weeks after *primam intentionem* the rapidly granulating surface formed a scar without any contraction of the surrounding parts. The advantages of the use of kerosene for such cases may be summarized as follows: It produces healing in a comparatively brief space of time; it is much more economical and is easily obtained; I have never found the wound to be complicated with any erysipelatous process; it does not produce constitutional poisoning through the wound by absorption as other antiseptics sometimes do; it has not the intolerable smell of some of the others which are now in use; and the formation of a cicatrix on the ulcers is rapidly developed. Kerosene, having a local irritating action on the wound, undoubtedly possesses also disinfecting properties for the remote surface as well as for the adjacent surface around the wound. This is of great value, for actual facts show that persons residing in the kerosene-oil districts are protected against ailments of an epidemic character, such as cholera, etc.

THE HYPODERMIC USE OF AMMONIA IN
CAPILLARY BRONCHITIS OR BRONCHO-
PNEUMONIA.*

BY H. MORELL, M.D., C.M.,
Slayton, Minn.

With your permission I will impose on your time for a few moments to ask your attention to the hypodermic use of ammonia, which I have used in some diseases, but more especially and frequently in capillary bronchitis or broncho-pneumonia. We are well aware that in almost every case of this disease we meet with we have to deal with one of the most fatal of all diseases affecting children under five years of age. It is not within the scope of this short article to give the signs and symptoms of this disorder, but I will draw your attention to a few of the most important, so

that we may draw conclusions better from the treatment of the disease under consideration.

The onset of a broncho-pneumonia may either be preceded by an ordinary bronchitis, or it may arise during convalescence from one of the exanthemata, or in whooping-cough. The temperature rises with rapid pulse, and with it the most characteristic symptom, which is great acceleration of the breathing; this may rise as high as sixty or eighty in a minute. The expiratory sound is generally accompanied by a grunt, with the mouth open and the angles of it drawn downward and outward, indicative of suffering; the eyes are glassy, staring, or anxiously rolling about. Dyspnoea is marked, and cyanosis rapidly develops; the face becomes livid, the lips and nails blue, as a result of non-aeration of the blood, and if the condition is not relieved death occurs from apnoea.

From these symptoms it will easily be seen that energetic treatment will be required to counteract the above-named conditions, especially as they arise from deficient aeration of the blood. In conjunction with poultices, attention to the bowels, and general treatment, we have in ammonia a drug which is recommended by modern writers, which will stimulate the respiratory centre, increase the power of expectoration, and quicken the action of the heart. Dr. J. L. Porteous speaking of the treatment of pneumonia says: "As regards ammonia in the disease we consider that in this drug we have a valuable, quick, and powerful diffusible stimulant. It produces an increase in the force of the pulse, and is a heart stimulant. I have seen wonderfully quick results from it when the patient showed a tendency to faint, or in dyspnoea."

In broncho-pneumonia we must remember that there is a tendency toward collapse, and therefore stimulating treatment is required from the outset of the disease. All authorities agree that ammonia is one of the most useful drugs we possess, but I

* Read before the Minnesota State Medical Society, June, 1895.

believe it is one of the most difficult drugs to get a child to take, even in the form of any combination. I have been using, hypodermically, the aromatic spirits, not because I think it is the best form to inject but as it was the only preparation I had at hand.

I generally inject from fifteen minims to two drachms into the arm, according to the age of the child, and I must say that it acts quicker and better than if given by the mouth, and does away with all coaxing.

Of course, there is no doubt that it causes a smarting and burning sensation for a minute or so, but in the cases where I have used it the child does not seem to mind it very much. The action of the drug is noticed almost immediately; the face loses its livid colour, becoming flushed, the pulse beats stronger, and respiration is deeper—in fact, all the symptoms are improved. The frequency of the injections vary; when the symptoms of collapse appear, I inject every hour or so, until the child breathes easier and the heart gets stronger, being careful, of course, not to overstimulate my patient. The aromatic spirits may not be the best form to use, but I have had good success with it. The aqua ammoniæ would seem to be more suitable.

In conclusion, allow me to say that in my opinion the hypodermic method acts more promptly and favourably, even when the patient can take remedies in the usual way, not only in this but in other diseases.

HICCOUGH.

The *Lancet* for August 24th publishes an article on this subject by Dr. John O. Leonhardt, who says that nothing is more common, trivial, and easy to treat than a mild attack of singultus, and yet, when it appears in its violent types, nothing is more distressing to the patient and harassing to the physician than this convulsive affection of the diaphragm. He relates the case of a man who had hiccoughed incessantly for two days and nights. The

patient was a large, plethoric person, sixty years old; his pulse was rapid and small, the skin hot and dry. He suffered from great restlessness with delirium, together with coughing and hiccoughing with every inspiration. It was impossible, says Dr. Leonhardt, to determine with any degree of accuracy the condition of the lungs and heart, owing to the agitation of the patient and to the great commotion within the chest. He appeared to be in a very critical condition. Dr. Leonhardt prescribed an active hydragogue and half a grain of sulphate of morphine by the mouth. The cathartic acted in a short time and the patient fell asleep, but the hiccough continued. Antispasmodics and sedatives were then tried, also counter-irritation—in fact, everything that might be expected to quiet the spasm—during the following week, but, without the least effect. The author then ordered twenty drops every half hour of a mixture containing equal parts of acetic and sulphuric acids. An unexpected and decided improvement took place he says, and the patient became convalescent within twenty-four hours. He had hiccoughed constantly, day and night, awake or asleep, whether under the influence of hypnotics or not, for eight days. About ten years afterward Dr. Leonhardt learned that he had died from the effects of a similar attack.

The author cites a number of cases that seem to him, he says, both interesting and instructive, of which the following are examples: 1. A negro, aged forty years, had dyspnoea and hiccough. He would hiccough constantly for six minutes and then enjoy a short period of rest. Bleeding, cupping the epigastrium, and hydrocyanic acid used internally, were resorted to, but with no effect. After twelve days he recovered while taking laudanum and ammonia. 2. Dupuytren cured two violent and obstinate cases by the use of the actual cautery applied over the xiphoid cartilage. 3. Minidière, in the *Revue médicale*, directs attention to the influence of malaria on the viscera, and its

expression in severe hiccough. He reports the case of a man who, recovering from an attack of ague, was seized with a violent hiccough which, in spite of opiates, blisters and antispasmodics, persisted for nine days, when it disappeared under the use of enemata of quinine. 4. Dr. Danet, in a severe case, following great mental disturbance and associated with headache and vomiting, after trying a great number of antispasmodics in vain, effected a recovery with a pill containing three quarters of a grain of valerianate of zinc and a small quantity of belladonna. 5. Dr. Constable treats of hiccough as a complication of pneumonitis, and recommends the subcutaneous injection of morphine. 6. In another case an infusion of mustard, given by mistake, caused the immediate disappearance of the hiccough. 7. Dr. Ortille relates a case of a woman, in whom hiccough had persisted for seven months. A decoction of jaborandi leaves and stalk was given in two doses fifteen minutes apart, and in two hours the patient was cured. 8. Dr. Smart, in a case of hiccough in a man who suffered from chronic alcoholism, used inhalations of chloroform after ineffectual attempts for four or five weeks to control the spasms with other remedies.

In the foregoing observations, says the author, it will appear that pilocarpine, epigastric compression, morphine, and chloroform are the mainstays of several able practitioners in the treatment of this disorder. It will also be seen that hiccough in old men is of shorter duration, as a rule, than in young women. Among the causes are found any irritation of the phrenic nerves, whether reflex, central, or peripheral. Its occurrence is common in the advanced stages of fatal diseases of all kinds: in uræmia, cholera, dysentery, gangrene, hæmorrhage, low fevers, and adynamic states generally; in apoplexy, hydrocephalus, meningitis, embolism, acute gastritis, cancer of the stomach, pericarditis, aneurysm, pneumonia, intestinal obstructions, strangulated

hernia, and the passing of renal and hepatic calculi; in mediastinal pleurites, fracture of the ribs, malaria, gouty inflammation of serous membranes near the diaphragm, spasmodic stricture of the œsophagus, affections of the larynx or pharynx, and enlargements along the sides of the thyroid or in the course of the phrenic nerves; in many diseased conditions of the liver, the spleen, the pancreas, the ovaries, the uterus, the prostate, etc.; even from ingestion of irritating substances, solid or fluid, so common in those addicted to rapid eating, gourmandizing, drunkenness, etc. Excessive crying or laughter is sufficient to cause hiccough in children and those of unstable nervous systems.

While these excerpts, he says, will doubtless puzzle the "symptom doctor" the pathologist and real clinician will have no difficulty in distinguishing the real from the apparent. It certainly appears plainly that hiccough is not a disease *per se*, but rather a neurotic equivalent occurring in many different diseases. While obscure but trivial nervous conditions may co-exist with a paroxysm of singultus which is usually readily amenable to simple measures often of a psychical character entirely, hiccough may be of so threatening and obstinate a nature that the resources of the ablest may be of no avail. It is in cases of the latter kind that a primary morbosity, if sought for, can, he believes, usually be found, and of which the diaphragmatic convulsions, though all-absorbing, are really but like the white crests of waves that, however conspicuous, are distinctly dependent upon the energy of sun and wind and water. Hiccough, says Dr. Leonhardt, is not a disease; it belongs to a class of imposing symptoms of which neurasthenia, dropsy, jaundice, fever, etc., are examples. The physician who permits himself to be deceived by the boisterous qualities of any disease shadow which he assails, regardless of the character of the real pathological substance that casts it, lacks medical acumen and exposes his pa-

tient to much unnecessary suffering and possibly danger.

MERCURY IN HEART DISEASE.

Dr. Murray, of London, contributes an article on this subject to the *Lancet* for September 28th in which he says that repeated observation has convinced him that mercury possesses a value far beyond the supposed alterative nature of its action—not that it fails to relieve congested vessels by drainage or osmosis, for doubtless, he says, this lays the foundation of its further action on the heart itself, and it would fail to relieve the heart did it not eliminate biliary and other effete matter from the blood and tissues of the liver and portal system, for instance; but when due allowance has been made for these primary effects there remains strong evidence that it tells upon the heart itself. Its special benefits are exercised in cases of dilated and hypertrophied heart. By means of it the thready, weak, rapid, and irregular pulse is made full, soft, regular, and slow with manifest relief of such symptoms as dyspnoea, pectoral weight and tightness, and sensations of faintness. The *angina sine dolore* is often marvelously relieved and removed by two or three grains of blue pill three times a day, and the severe forms of angina pectoris not infrequently disappear under its influence. While the nitrites, nitroglycerin, etc., afford temporary relief, this remedy is much more permanent in its effects. It need hardly be said, says Dr. Murray, that to give digitalis a fair chance it is absolutely necessary to pave its way by preliminary doses of mercury and to foster its action by repeated doses. Many of the cases where digitalis, etc., fail, or seem to fail, by supposed accumulation depend on this: that we are giving the digitalis without the blue pill or calomel, and it often falls to the lot of the consultant to make a great hit by inserting the mercurial into the previous treatment. Much more true is

this of iron and digitalis combined. We see a patient with engorged vessels and labouring heart taking iron and digitalis much to the detriment and not to the benefit of the case—each dose is but adding fuel to the fire—energizing the heart in its futile attempts to drive the blood through the engorged vascular system, and thus exhausting the organ in its hopeless struggle. All this is changed by frequently repeated doses of mercury; the portal system is drained, the water from the general vascular system is “exosmosed,” dropsical accumulations are absorbed, and, by pushing the drug, we get hold of the heart itself and produce the slow, soft, regular, and effectual pulse, giving the digitalis or strophanthus a fair chance to come in as cardiac tonics; and at last we complete the circle by arriving at the point whence we departed with the patient in a very different condition, and we can give the iron and digitalis now with impunity—say, with immense benefit. The following case, says the author, speaks for itself, and its quotation is the more apt as the patient came from being under the care of an eminent Edinburgh physician in the very condition just described—namely, that of a dilated and hypertrophied heart goaded to excess in a useless effort by iron and digitalis: The patient, a hard-working man, was a Scotchman and had all the talent, physique, and energy peculiar to his race. He gradually manifested symptoms of valvular disease and dilated heart when about forty-eight years of age. He went to Edinburgh and was under treatment there for several weeks. At last he was sent home with the assurance that nothing more could be done for him. Dr. Wilson, of Wallsend, was summoned to see him, and he called Dr. Murray in consultation on the case. They found the patient in the following condition: He was propped up in bed. His countenance was anxious, his eyes seemed to protrude from their sockets, and his face was bathed in perspiration, with a livid

colour of the lips and skin. His breathing was shallow, frequent, and difficult, accompanied by a constant hacking and ineffectual cough. His pulse was hardly perceptible, irregular and thready. The heart's action was tumultuous and irregular, the cardiac sounds were almost inaudible, and a distant murmur could be heard with both sounds at both the right and the left apex. No cardiac impulses could be felt except a wavy movement at the epigastrium. The liver was enlarged, and the abdominal cavity was distended with fluid, as were also the lower extremities and the scrotum. The pleural cavities were also occupied to a considerable extent by fluid effusion. They determined to abandon the usual cardiac stimulants and gave him two to three grains of blue pill three times a day, and at the end of two days he was given a smart purge of jalap. Greatly encouraged by the result they pushed the blue pill (from two to three grains three times a day) for a week or more, and during that time a steady relief of all the symptoms ensued. The countenance became placid, the tongue (before dry and brown) became moist, and the pulse more regular, full and soft; the dropsical accumulations gradually receded, and the breathing resumed a normal character. Now, says the author, was the time for digitalis—always best given on a falling tide in dropsy—and doubtless the patient owed much of his rapid recovery to the temporary and occasional use of that drug; but the principal treatment was by the steady use of blue pill, now gradually diminished to two pills a day, and finally to a five-grain pill at bed-time. To sum up the results, the man felt himself to be quite free from all his troubles in six weeks.

The point of interest in this case, says Dr. Murray, is that during the next ten years the patient took his blue pill every night with few intermissions, and declared that whenever he omitted to take it for a few nights his heart began to trouble him

and his breathing became difficult. This nightly dose was in some mysterious way enabling a heart massive with disease to discharge its duties in such a way as to make its owner feel quite well. The drug never salivated, purged, or nauseated him and it never gave his breath a touch of fœtor. At last, however, his old symptoms returned, the machinery was worn out, and he died chiefly from the pressure of abdominal fluid on his enormous heart.

At the post-mortem examination the heart was seen to be excessively enlarged, and the space occupied by it measured eight inches across and eight inches from above downward. The lungs were displaced backward and compressed by the enlarged heart. The right auricle was very much dilated, almost to the size of a man's fist. The walls were thickened and the muscular tissue hypertrophied. The auriculo-ventricular orifice was very much increased in size and readily admitted eight fingers at once. The tricuspid valves were much thickened and opaque. The right ventricle was much dilated and the walls were thin. The left auricle was much dilated, the walls were thick, and the endocardium was opaque. In one part of the wall of the auricle there were two bars of calcified muscular tissue united by a cross-bar of the same substance. The auriculo-ventricular opening was much constricted and hardly admitted the tip of the index finger. The mitral valves were adherent, so that there was only a small opening like a buttonhole between them. The valves were thick and rigid, but not calcified. The left ventricle was dilated, but its capacity was only about half of that of the right ventricle. The walls were not much increased in thickness. The peritoneal cavity contained a considerable amount of clear fluid. The spleen showed a dense white patch of scar tissue a quarter of an inch deep in the centre—evidently the site of a very old infarction. The surface of the liver was nodular; on section it showed dense

strands of connective tissue of advanced cirrhosis.

To rescue a man from the jaws of death, says Dr. Murray, and to give him ten or eleven years of fairly good health confers on any drug a reputation, and its potency is established. The question, he says, naturally arises, How does it act? Is it a cardiac tonic, stimulant, alterative, or what? Does it act on the secondary apparatus of the circulation and the blood itself by reducing the resistance of the vessels, diminishing the volume of blood, and altering its fibrinity so as to make it circulate more freely? Dr. Murray thinks that it does produce these effects, and, at the same time, that it soothes the heart by purifying the blood of effete accumulations.

MENTAL SYMPTOMS OCCURRING IN BODILY
DISEASES.

At a recent meeting of the British Medical Association (*British Medical Journal*, September 28th) Dr. Ernest S. Reynolds, of London, read a paper on this subject, in which he dealt only with the results of his personal experience during four years' residence in the Manchester Royal Infirmary and five years' work in the Manchester Workhouse Infirmary.

Mental depression, he says, is by far the commonest slight emotional state met with, and may be a natural feeling caused by pain or actual personal inconvenience, or it may be an entirely unnatural depression quite incommensurate with surrounding circumstances. It is found proverbially in abdominal diseases, excepting, curiously enough, in splenic disorders; for the old expression fits of the spleen for lowness of spirits and irritability of temper does not seem to be borne out by clinical observation. Contrary to the usual statements, mental depression and more or less hypochondriasis are very common in phthisis, especially as it is observed in the wards of a workhouse infirmary.

Intense depression accompanies and sometimes follows various fevers, such as rheumatism and influenza. In the inter-paroxysmal periods of epilepsy depression and hypochondriasis are often marked features, and the after-effects of poisons, such as *cannabis indica*, opium, alcoholic, and carbon bisulphide, are those of depression. Alcoholic paralysis is accompanied by great depression, especially in women, oftener by exaltation in men. Vague dragging abdominal pains and hypochondriasis in women should always lead us to examine for movable kidney. The presence of hair on the face in women causes great depression, which may lead on to true melancholia and even suicide.

Mental dullness (which must, of course, be distinguished from unconsciousness) is found in cerebral tumor, in intense headache, in phthisis, in cyanotic states, in disorders of the liver, such as cirrhosis and cancer, in cancer of the stomach, and especially in myxœdema.

Irritability of temper, common enough in sick children, is especially common in two diseases of adults—namely, phthisis and diabetes; it is also seen in the gouty and in various forms of dyspepsia, and may accompany painful conditions, such as toothache or sciatica. Feelings of terror occur in hydrophobia, in delirium tremens, and possibly in chorea and Graves's disease.

Actual insanity occurring in bodily diseases, says the author, should not include the insanities connected with mental bodily changes, such as those of puberty, child-birth, and the climacteric and senile periods. Insanity may occur in any of the following classes of disease: 1. Organic disease of the nervous system, whether cerebral or spinal (including Graves's disease). 2. Disease of the heart. 3. Disease of the lungs (excluding phthisis). 4. Disease of the digestive organs. 5. Disease of the urinary and generative organs. 6. Certain general diseases, such as gout, diabetes, and myxœdema. 7. Diseases caused by germs, including

tuberculosis and rheumatic fever. 8. Vegetable and mineral poisons. 9. Traumatism, including surgical operations.

Among the diseases caused by germs we find a comparatively large amount of mental disease. Very rarely pneumonia is accompanied by true acute delirious mania (to be distinguished from delirium tremens, so commonly seen in the pneumonia of alcoholics). After pneumonia and typhoid fever a stuporose demented condition, or a melancholia with delusions of suspicion and poisoning, may occur, these cases almost invariably ending in recovery in a few days or weeks. Influenza may set in with very acute mania, with great excitement, delusions, and hallucinations, recovery occurring as a rule; or there may be suicidal attempts in the early stage; after influenza melancholia may set in; less frequently, mania.

Dr. Reynolds's experience has led him to draw the following conclusions:—

1. It is a comparatively rare occurrence for actual insanity to develop during the course of bodily disease. 2. In general hospitals mental disease most commonly occurs after fevers, poisons, injuries and operations, and heart disease (in about this order of frequency). 3. In the early stages of fevers and after injuries and operations mania is the common form of insanity, but in other conditions depression is more common; but the commonest form is an insanity with marked delusions of persecution (often associated with hallucinations of hearing), such as one sees in phthisis and heart disease and after typhoid fever. 4. There is no special form of insanity connected with special bodily disease, so that it is impossible to diagnosticate the bodily disease from the mental symptoms present (except the peculiar mental state of alcoholic paralysis). 5. Insanity occurs with unusual frequency in bodily diseases associated with peripheral neuritis, as in poisoning by alcohol, carbon bisulphide,

and lead; pellagra, typhoid, typhus, scarlet, and rheumatic fevers, influenza, pneumonia, phthisis, syphilis, septicæmia, rheumatism, gout, and diabetes. Is it possible, he asks, that in these conditions the factor which causes the changes in the peripheral nerves causes also some similar changes in the multitudinous internuncial fibres in the brain, and so produces disturbances in the normal cerebral reactions which go to make up a healthy mind? 6. Where the cause is not continuous—such as the poisons, the fevers, and the traumata—the mental symptoms in the great majority of cases disappear; in heart disease and phthisis they may disappear and reappear from time to time; but in some cases, such as the insanity connected with gouty kidney, they disappear only with death.

THE DISAPPEARANCE OF THE FIRST HEART SOUND IN TYPHOID FEVER.

The *Mercredi médical* for September 4th publishes a report of a recent meeting of the *Congrès français de médecine interne*, at which M. Mongour stated that he had ascertained that the first heart sound had disappeared during the course of typhoid fever in two patients. From the study of these cases and of analogous ones, he said, the following conclusions might be drawn:

1. The disappearance of the first heart sound at the apex or at the base, at whatever stage of the disease it occurred, had no grave prognostic signification if the number of the pulsations did not exceed a hundred and ten. If, however, they exceeded this number, the disappearance of the systolic murmur might be considered as a fatal sign.
2. While this disappearance appeared to be connected with the existence of myocarditis, the cardiac acceleration seemed rather to depend on a toxic action on the nervous centres. This second tendency of the toxic agent was much more serious than myocarditis, which was generally cured.

A DEODORIZER FOR IODOFORM.

The *Lyon médical* for August 25th remarks that the odour of iodoform, if not dangerous, is very noticeable and annoying. The oil of turpentine causes this strong odour to disappear immediately from anything with which this antiseptic has come in contact. The hands may be first washed in water to which some turpentine has been added, and afterward with soap and water, and it will be found that the odour has entirely disappeared.

CAMPHORATED SALOL.

In a report on dermatology by Dr. John T. Bowen, published in the *Boston Medical and Surgical Journal* for September 19th, it is remarked that Elsenburg has used this preparation in various cutaneous affections for two years, and has found it of special value in furuncles and carbuncles. It is prepared by moistening one part of camphor with a few drops of alcohol, and rubbing this in a porcelain mortar with 1-4 part of salol until a transparent liquid is obtained. A change, says Dr. Bowen, takes place in from twelve to twenty-four hours; the pain diminishes, the redness and inflammation of the adjoining parts disappear, and the tumour becomes progressively smaller, without the formation of pus. As a rule, the secretion obtained from the vesicle at the point of the furuncle yields a pure culture of the *Staphylococcus aureus* on nutrient media, as do also bits of the infiltrated tissue. After camphorated salol has been used for twenty-four hours, no such cultures can be obtained. When suppuration has already taken place in the furuncle, and after the slough has been removed, the pain and hyperæmia may be much lessened by the application of the camphorated salol, and the suppuration diminished. The healing process then advances quickly, a slight discoloration, and some infiltration being felt only for a short

time. The method of using the drug is to lay bare the point of the furuncle, or, in the case of carbuncle, to make several moderately deep incisions, in order to facilitate penetration into the infiltration; afterward the lesion and the surrounding hyperæmic parts are covered with cotton compresses soaked in camphorated salol, and an impermeable covering is placed outside.

A NEW VIEW OF THE TREATMENT OF VOMITING AFTER CHLOROFORM ANÆSTHESIA.

In the *Revue de chirurgie* for September M. Lewin relates his experience with the use of vinegar to prevent vomiting in a hundred and seventy-four cases of chloroform anæsthesia. In a hundred and twenty-five cases, he says, he has obtained complete success, no vomiting of any kind having been produced. In forty-nine cases there was vomiting, but it was generally slight and the rejected material was rather viscous. The method should be very carefully carried out, he says, in order to insure good results. It is known, he remarks, that chloroform is eliminated almost exclusively through the lungs, partly as free chloroform and partly as formic acid and chlorine. It is evident, he says, that the chlorine exercises an irritating action on the larynx and on the trachea, and that this is one of the principal causes of the vomiting. When a cloth saturated with vinegar is held over the nostrils, the chlorine combines with the acetic acid as fast as it is evolved and forms trichloroacetic acid.

It is very dangerous to use pure chloroform, says M. Lewin, and all medicinal chloroform should contain a certain quantity of alcohol, which renders its decomposition during narcosis more difficult. It is also known, he continues, that chloroform dehydrates the tissues, and consequently after the action of the chloroform has been suspended it is well to make the patient breathe in air that is as humid as possible.

This dehydrating action, says the author, influences also the endothelium of the blood-vessels and causes coagulation of the blood, to which the slackening of the circulatory movement and the feeble activity of the chemico-biological phenomena in the capillaries also contribute. Under such circumstances the author thinks acetic acid is a powerful factor in restoring to the blood its normal fluidity, owing to a property that it derives from the water it contains, and to its energetic power of destroying the fibrin. Moreover, acids in general are stimulants of the respiratory tract. The foregoing considerations, he says, seem to him sufficient to explain the phenomena without bringing forward a hypothetical action of the vinegar, or of acids in general, on the vomiting centre by the intervention of the vaso-motor nerves.

The following observations were made in cases where this treatment was employed by the author. Immediately after the application of the vinegar the pulse became strong, respiration grew deeper, the face regained a little colour, and the corneal conjunctiva became bright. The appetite returned at the end of a short time, and the patients occasionally complained of hunger on the very day of the operation. Frequently they did not suffer at all from the general uneasiness which nearly always follows chloroform anæsthesia. It does not follow from this, says M. Lewin, that the application of the vinegar always suppresses the vomiting, for, in certain cases where the patients are very nervous or are suffering from certain affections of the lungs or of the stomach, vomiting may occur in spite of the treatment.

The method of application is as follows: A piece of linen of about the size of a napkin is saturated with vinegar and lightly wrung out; it is then placed on the patient's face, over the mask, which is afterward carefully withdrawn, care being taken not to allow the air to gain access to the face too suddenly, for it ought to pass

through the linen cloth before being inhaled. This cloth must be kept on as long as possible, for three hours at the least, and it is better for the patient if the application is prolonged during the entire day, for occasionally the presence of chloroform in the expired air has been observed for more than two days after narcosis. If the cloth is removed too soon, nausea will set in. If the linen cloth dries very rapidly it must be replaced immediately with a fresh one, which is put over the first cloth before the latter is drawn away in order to prevent the air from touching the face. If the wet cloth is annoying to the patient it may be held away from the face with a mask. It is of the greatest importance to conform to these rules, says M. Lewin, for failure to observe them has prevented good results from following the application of the vinegar. In administering chloroform, he says, it is preferable to use small doses, which is the only rational method, for in operating the mask should not be raised during chloroformization, while by the method of large doses it is often necessary to lift the mask after having produced a profound narcosis. In this way the air reaches the patient's face too suddenly and causes nausea and vomiting, sometimes during the operation, sometimes after it.

LORETIN A NEW ANTISEPTIC.

In loretin Dr. Snow (*B. M. J.*, December 21st, 1895) holds that we have an antiseptic more powerful than iodoform "non-poisonous, devoid of smell and absolutely preventive of suppuration." This is certainly good news if true, and we earnestly hope that further observations will prove that Dr. Snow has not exaggerated the virtues of this new drug.

RESORCIN IN INFANTILE DIARRHŒA.

In an excellent paper on infantile diarrhœa (*B. M. J.*, December 21st, 1895) Dr. Fenwick lays stress on the value of resorcin in cases of diarrhœa due to fermentation. In his

hands the drug has been very successful, and he attributes the failure of others to appreciate the value of the drug to the fact that the dose according to the Pharmacopœia (one to five grains) is far too small. He is in the habit of prescribing three grain doses of resorcin every three hours to infants only a few weeks old, and has seen no ill-effect. The drug is "extremely palatable to children, devoid of tonic properties and very inexpensive."

VACCINATION AGAINST CHOLERA.

Professor Koch has expressed his opinion with regard to the value of Dr. Haffkone's method of vaccination against cholera. He "believes the protective power of the method to be established finally by the observations collected in India up to now."

METHODS OF EMPTYING AN OBSTRUCTED BOWEL.

A very practical paper appears in the *British Medical Journal*, January 26th, 1895, by Mr. W. Thomley Stoker, President of the Royal College of Surgeons in Ireland. He is an uncompromising opponent of the long enema tube (O'Beirnes), and gives several examples of injury following its use; he also warns against the practice of delegating the administration of an enema to any assistant or nurse that may be at hand. He writes: "For some years past I have used but two instruments for giving enemata. One is an ordinary Higginson's syringe, to the nozzle of which a No. 12 or 14 red rubber catheter has been attached. For the daily purposes of the rectal toilet, or in cases where the injection is to be retained, or ejected by natural effort, this will be found perfect. It is absolutely safe and quite painless. It can be used in the most tender infant or the most callous adult, and in instances where injection is called for in the presence of inflamed piles it is a blessing without any disguise.

The second instrument is an ordinary red-

rubber tube four-eighths to five-eighths of an inch in diameter, such as is used for washing out the stomach. It is convenient to have circles marked at three, six and nine inches from its extremity, so as to know what length of it lies in the rectum. A large funnel should fit the dilated extremity, and should be transparent, so as to allow the fluid which is being introduced to be seen. I have found a celluloid funnel more convenient and portable than one made of glass.

The patient lies on his back, or left side, with the pelvis raised, so as to facilitate the passage of fluid into the sigmoid and descending colons. The only fluid that should be used is warm water, and eight or ten gallons of it may be employed at one sitting. The surgeon sits on the right of the patient's bed, introduces the end of the tube and retains it in position with his left hand, while with his right he holds the other end of the tube, into which the funnel is inserted. The tube is introduced three, six or nine inches, as may be indicated, and should be moved up and down in the anus by the left hand. An assistant pours water into the funnel; and the pressure may be varied and adjusted by the height to which it is raised by the operator. The left hand can be used at any moment, when the pressure in the rectum becomes painful, to pinch the tube and stop the flow. When as much water has been introduced as can be borne the funnel is removed, that end of the tube lowered to a basin placed on the floor, and the fluid allowed to run out of the bowel. By repeated operations of this kind large quantities of water may be used, and the bowel emptied without the patient being exhausted by straining or by the necessity of changing his position. The solution of fæces and expulsion of flatus are assisted by the pushing in and out of the tube which I have indicated, and by the varying hydrostatic pressure caused by alternately raising and lowering the funnel at the free end of the tube.

The advantages of this method over older ones are as follows :—

1. The tube is soft and cannot cause injury.

2. The fluid pressure can be regulated to a nicety, and cannot be made excessive, as if undue pressure threatens regurgitation into the funnel takes place.

3. Enormous quantities of water can be used.

4. The currents created by alternating hydrostatic pressure have a powerful solvent effect on the fæces.

5. The operation necessitates no exertion on the part of the patient, no change of

position, and can be carried on far a long time without exhaustion.—*Clinical Sketches.*

ICHTHYOL FOR PHTHISIS.

Sulpho-ichthyolate of ammonium—a thirty per cent solution in water, glycerine, or alcohol, in doses amounting to 20-200 minims daily, has been given in 150 cases of pulmonary phthisis by Scarpa (*Rif. Med.*, March 6th, 1895). Twenty-three of the most advanced cases died, but the others were more or less benefitted, and seventeen appear to have been absolutely cured.

Hongkong and China Branch of the British Medical Association.

Dr. J. C. Thomson, of Hongkong, has kindly sent us the two following reports of recent meetings of the B. M. A. Branch in Hongkong :—

A meeting of the Local Branch of the British Medical Association was held at the Government Civil Hospital, Hongkong, on Monday, January 13th, for the discussion of a paper by Dr. Hartigan on the "Recent Fever Epidemic in Hongkong." There was a remarkable lack of unanimity among the members present as to the true nature of the disease which lately prevailed in the colony.

While the leader of the discussion contended that it was of the nature of a relapsing fever, due to the insanitary condition of the drainage of the city. Dr. Atkinson, Acting Colonial Surgeon, held that it was a pure malaria; Dr. Stedman, basing his opinion on experience of three epidemics of influenza in England, that it was influenza, and that the relapses that occurred in only a proportion of cases were malarial; Fleet Surgeon Godding, R.N., H.M.S. *Centurion*,

that it was a similar disease to the dengue he had seen on the Indian station; Dr. Jordan that it was a combination of influenza and malaria; and Surgeon Major Hayes, A.M.S., D.S.O., that it was akin to the filth fever he had seen in Egypt. "Where doctors differ!"

It may be of interest to some members of the Medical Missionary Association to know that forms of application for admission to the British Medical Association may be had locally, and that all arrangements may be made in Hongkong, since the local council has full powers to elect to membership of the parent association. All who hold British qualifications are eligible, and members receive the *Journal* of the Association free by post every week. The printed form of application may either be sent direct to London with P. O. O. for £1.1.0. the annual subscription, or sent to the Local Secretary, in which case it would require to be accompanied, in addition to P. O. O. for £1.1.1 by the local subscription of one dollar. The officers at present are :—President, J. A.

Lowson, M.B., Government Civil Hospital, Hongkong; Vice-President, Surgeon Major S. Westcott, A.M.S.; Hon. Secretary and Treasurer, J. C. Thomson, M.D., Alice Memorial Hospital, Hongkong.

INFECTIO IN BUBONIC PLAGUE.

A Discussion by the Hongkong and China Branch of the British Medical Association.

A meeting of the local Branch of the British Medical Association was held in Hongkong, on Friday, 13th March, Dr. James A. Lowson, President of the Branch, in the chair, for the discussion of the subject of Infection in Bubonic Plague, of which sporadic cases had been occurring daily in the colony ever since the year began.

Dr. Lowson introduced the discussion in an able and interesting paper, in which, taking for granted that the sole cause of plague is the Plague Bacillus, he adduced evidence to show that the fæces, discharges from buboes, and the blood, are infective; that the transmission of the bacillus by the saliva is doubtful, and that the breath, the urine and the milk do not convey it; that the main multiplication of the poison takes place in the human body, in the dust of the floors of filthy dwellings and in underground channels reached by the lower animals, *e.g.*, rats, of which thousands die wherever plague prevails; that infection is accomplished by inoculation through wounds or mucous surfaces; that the air of infected houses owes its infective properties to the dust stirred up or lying on the floor; that the atmosphere only carries the poison when in a very concentrated form; and that personal intercourse along the lines of travel is an absolute essential for the spread of the disease.

Dr. Hartigan expressed the belief that infection from person to person is rare, and that the dust of an infected dwelling is more dangerous than the plague patients themselves. He showed a close correspondence between the dissemination of plague and of typhus. He questioned the theory that fresh fæces would convey the disease.

Dr. Clark was of opinion that more danger existed in the emanations from the lungs and skin than had been granted in Dr. Lowson's paper, and that not inoculation but prolonged breathing of an infected atmosphere is the usual method of infection.

Surgeon-major James, A.M.S., from his experience of the 1894 epidemic, confirmed the last speaker's facts and conclusions.

Dr. Arnold, of the U. S. A. navy, made statement regarding a research which he is making into the causation of plague, and showed the immunity of monkeys to the disease.

Dr. Rennie laid on the table his Report on the Plague in Canton during 1894, recently published by the Chinese Imperial Maritime Customs, and called attention to the fact that in his paper he traces the recent movements of the plague and the route by which it probably reached Canton and Hongkong from Yunnan, where it has been endemic for a quarter of a century. He shows reason to believe that it did not reach Canton by way of the West River, the main line of traffic, as might have been supposed, but that it travelled overland to Pakhoi, and thence northward to Canton. It was probably introduced to Hongkong through the migration from Canton of persons actually suffering from plague, or passing through the short period of incubation.

Dr. Lowson, having replied, was awarded a cordial vote of thanks for his paper.

A PLEA FOR MEDICAL STATISTICS.

Some time ago I noticed in an English medical journal a wail over the irregular issue of the Chinese Customs' Medical Reports, the editor considering them the only source of information on the diseases of the Chinese. Probably the poor man was unaware of the existence of 'our own,' but I could not help feeling how very little is known of the work carried on in the various mission hospitals and dispensaries, and how small a part we are taking in the investigation of the maladies of the people of this land.

Some hospitals publish and circulate reports, but the great majority do not, and away from the treaty ports there is not the same *raison d'être*. Of those who do very few publish a detailed list of the diseases met with.

Now the proposal I have to make is that every hospital and dispensary publish such a list, not necessarily every year, for that might be an intolerable burden, but once every three or four years. I think it would be a good thing if a small committee were appointed. They could fix the years, so that the lists might be simultaneous. It would not be necessary to publish reports; the lists could be sent in to the committee and they would prepare them for publication in tabular form in the Journal.

Rare cases should be reported yearly or noted and sent in with the triennial list.

It is very important that not only the number of cases of the various diseases be stated but also the percentage to the total number of cases coming, *e.g.*, total number of patients 5,000, cases of dyspepsia 500 or 10 %. For purposes of comparison the percentage is by far the most useful.

Of course cases of doubtful diagnosis should not be included. Epidemics and imported cases should have distinguishing marks. Yearly reports of epidemics and endemics would be very desirable.

It is not necessary to dwell on the advantages of such a scheme. They must be apparent to all of us. An enormous amount of valuable information is buried in the case books of our dispensaries which, if collated and published, would throw a flood of light upon the occurrence and distribution of diseases in China. I do not think anyone need shrink from the labour involved. Personally I have found it very useful as leading to an unusual amount of reference reading and clearing up of hazy ideas on various points of nomenclature.

PHILIP B. COUSLAND, M.B., C.M.

HISTORY OF THE MEDICAL MISSIONARY SOCIETY'S HOSPITAL, CANTON.

BY J. G. KERR, M.D.

Protestant missions in China date no farther back than the early part of the present century. The Rev. Dr. Morrison, the first missionary, landed in Canton in 1807. This city was then the only port at which foreigners were permitted to reside, and it was not until after the war of 1840-42 that four other ports were opened. Intercourse with the natives was very much restricted, and mission work of any kind in public was not attempted during Dr. Morrison's life-time. In 1820 he and Dr. Livingstone opened a dispensary in Macao, but it does not seem to have been kept up very long.

The first regular medical work for the Chinese was inaugurated in Macao in 1827 by Thos. R. Colledge, F.R.S., physician to the E. I. Co., and his dispensary was conducted for four years, at first at his own expense, but afterward aided by the European merchants; six thousand patients came under his care, and his philanthropic and benevolent work holds the honourable place of being the first introduction into China of the benefits of scientific and modern medicine and surgery; and the name of Colledge stands at the head of the list (now a long one) of medical men who have devoted their time and professional skill freely to the Chinese.

The first medical work in Canton was a dispensary opened in 1828 by Dr. Colledge and Dr. Bradford, an American physician, and the record states that it was largely patronized by the natives, but was short-lived.

The Rev. Peter Parker, M.D., the first regularly appointed medical missionary to China, was sent by the A. B. C. F. M., and arrived in Canton in 1834, and on the 4th November, 1835, he opened a hospital and dispensary in No. 7, Fung-tai hong, San-tau-lan St., adjacent to the foreign factories. The rent was \$600, but the owner, the Senior How Qua, after seeing the good that was done to his people, gave it free of rent, and the hospital was continued in this building until it and the foreign factories were destroyed in the war of 1856-1858.

Dr. Parker opened a hospital in Macao in 1838 and carried it on for a few months. Afterward it was conducted for a time by Drs. Lockhart and Hobson.

In connection with the hospital in Canton, and growing out of its establishment, "The Medical Missionary Society in China" was organized February 21st, 1838. This was the first medical missionary society in the world. Dr. Colledge, Dr. Parker and the Rev. Dr. Bridgman were chiefly instrumental in its inauguration, resident merchants and missionaries were members and gave it support.

Quarterly Reports of the hospital were issued at first, and some of these are found in the *Chinese Repository* for 1837.

The hospital being located near the foreign factories the European merchants then resident in Canton took great interest in this new form of benevolence and not only contributed liberally to its support, but visited the hospital, and some of them assisted Dr. Parker in surgical operations.

The fame of the hospital soon spread among the Chinese, and crowds resorted to it, patients sometimes passing the night in the street, so as to gain early admittance the next morning. The surgical operations of course called forth the wonder of all, and well they might, for the excision of tumours, the operation for cataract, the removal of stone from the bladder, were methods of relieving suffering which had never been heard of; and indeed the astounding fact became known that surgical instruments and operations were unknown throughout the empire.

Dr. Parker continued his benevolent work, ministering to rich and poor alike, until the outbreak, in 1840, of the war between England and China, during which it was suspended. In the meantime Dr. Parker visited America and England, and by public addresses in the principal cities of these countries excited much interest in medical work associated with preaching the Gospel to the heathen, and societies auxiliary to the society in Canton were formed in several cities. At that time the Empire of China was a far distant and little known country, but teeming with a population wholly given to idolatry and destitute of all the benefits of modern medicine and surgery. With such a theme, and his experience of a few years of medical work for such a people, it is no wonder that Christian people and philanthropists took deep interest in this far-reaching beneficent work and in this new method of commending the Gospel to the heathen and of gaining their confidence. From that day to the present medical missions have been extending, and are gaining more and more the confidence of the Churches as a divinely appointed means of bringing a world of sinners to Christ.

Dr. Parker returned to Canton in 1842, after the conclusion of the war and re-opened the hospital in the same building, and it was carried on by him until 1853, when his connection with the American Legation left him little time for its duties.

In 1854 Dr. Kerr arrived in Canton and took charge of two dispensaries opened by Rev. Dr. Happer, and in the following year the Medical Missionary Society's Hospital was transferred to his care, Dr. Parker having in the meantime been appointed Minister Plenipotentiary to China.

Dr. Parker's surgical operations had given Western practice a high position in the confidence of the people, and they learned to know that certain painful diseases, incurable by the native faculty, were easily and speedily removed by the new methods of the Western surgeon.

Dr. Parker's first lithotomy operation was in 1844, and the whole number performed by him was thirty-seven. Numerous large tumours were removed and many operations for cataract performed, restoring sight to those who were otherwise hopelessly blind. Dr. Parker also was the first to use anæsthetics in operations on the Chinese.

(To be continued).

MEDICAL TEXT-BOOKS IN CHINESE.

At the Medical Conference in Shanghai in 1890 considerable attention was paid to the subject of medical teaching of Chinese students, and since that date articles have appeared from time to time in the Journal referring to the same matter. But in all that has been written little or nothing has been said in regard to the preparation of text-books for use in training our medical classes. So far as the writer is aware, with the exception of Dr. Hobson's work—now rather out of date—no one in China has seriously undertaken the task of preparing a series of medical text-books in Chinese but Dr. Kerr in Canton. Dr. Kerr's books have been an immense boon to those of us who have been carrying on medical teaching regularly; indeed without them it would have been an almost impossible task to pursue a graded system of teaching, except with an expenditure of time which few of us could afford.

But with all its excellencies Dr. Kerr's series of text-books is still lacking in some of the essentials of a perfect system. His *Physiology* is exceedingly obscure in its language and full of errors, which detract very much from its usefulness, and his *Surgery* is much complained of by students as lacking in clearness of arrangement. His *Practice*, which is a most excellent book, clear in language, orderly in arrangement and full in its treatment of the subject, will soon have to be revised and brought up to date, and the same may be said of Dr. Kerr's book on *Eye Diseases*, unless more recent books are suited to take its place. His *Materia Medica* is all that is needed at present in the line of materia medica, but some more elaborate book should sooner or later be provided in the field of therapeutics. Beside Dr. Kerr's books we have Dr. Dudgeon's *Anatomy* and *Physiology*, but both of these are so high in price as to be quite beyond the reach of the vast majority of our medical students. Osgood's *Anatomy* is excellent, and with the help of a skeleton and proper manikins is all that will be needed for a long time to come, especially as Dr. Dudgeon's more elaborate work is at hand if needed. Dr. Porter's *Physiology* is a good book for elementary instruction, but scarcely sufficient for use in the thorough training of medical classes. This, so far as I am aware, practically exhausts the books at present at our command for the teaching of general medicine in

Chinese. That they are sufficient for our needs I think no one would claim. That there is room for good and telling work in the preparation of careful and even exhaustive text-books in Chinese I think everyone will grant. But in order to obtain what we need the work should be done in a most painstaking manner, not hurriedly, but slowly and carefully; no book to be published until after repeated revisions, and when practicable not until after it has been subjected to the practical test of having been taught in manuscript to a class of students.

If the writer might be allowed to suggest a few of the more pressing needs in the line of text-books he would say:

1. A first-class *Physiology* at a moderate price.
2. A somewhat elaborate *Therapeutics*, with little or no descriptive *materia medica*.
3. An illustrated book on *Skin Diseases*.
4. A good book on *Obstetrics*.

Besides these needed text-books for everyday use in the class room, is there not room for more elaborate treatises on different medical subjects for use in collateral reading and to be used for reference only? Until we can offer our medical graduates more books with which to keep up their knowledge after graduation we cannot hope to build up a progressive force of native practitioners. Those whom we turn out from our classes, as soon as they leave our foreign hospitals and set up for themselves, are almost certainly bound to degenerate into mere keepers of medicine shops, unless we can furnish them with some medical literature which will be a spur to them to move upward.

JAS. B. NEAL, M.D.

Chi-nan-fu, 19th Feb., 1896.



Evangelistic.

WESLEYAN MISSION HOSPITALS, CENTRAL CHINA.

We extract the following from the Annual District Report of the Wesleyan Mission in Central China :—

“The medical work of our district is centred in three hospitals and three dispensaries worked by qualified practitioners. It is supplemented by a few other dispensaries, where missionaries give attention to the slighter ailments which can be cured by some of the more simple drugs. The good reason we have had for our repeated outcries in the past for an increase in our medical staff is emphasized this year by the straits we are in to keep the work we have started in going order. The Hankow women and children’s hospital has had no lady doctor for the whole year, but by an extra strain on the labours of the matron and her small staff of nurses, and extra work on the already overworked doctor of the men’s hospital, its doors have been kept open during the greater part of the year. The Teh-ngan hospital has not been opened at all to receive in-patients, as Dr. Morley returned to England in the spring; but the native assistant, Mr. Li, has done good work both at the hospital, and at the Shin-chien-sz dispensary, amongst the male out-patients, while two of the European ladies residing in Teh-ngan have attended to the women.

“The *Hankow men’s hospital* reports a total number of 177 in-patients, the highest hitherto reached (last year there were but ninety-five); fifty-four operations having been performed, not including a large amount of minor surgery in the out-patient department. For some reason or other the hospital has acquired a sudden fame for curing opium-smokers and, as a consequence, the past year has seen almost as many patients of this class as in all the previous years of the hospital’s existence. The year closing would have been one of great gladness in the evidence it has given of the steady growth of the hospital influence, but it is tinged with an equally great sadness. Several of the assistants have fallen into sins of dishonesty. The arrival of Mr. Jobbins at this juncture is especially well-timed.

“The *women and children’s hospital* report the treatment of 116 in-patients. It has welcomed Miss Lister, who will relieve Mrs. Bell. Mrs. Bell herself is thus gladdened that when she is obliged at last to return to England for a furlough there is one who will take up her work. The new lady-doctor is expected in a few weeks.

"In both these hospitals evangelistic work has been carried on. At morning and evening the services partake of the nature of the Bible class. In addition to this there has been a good deal of real preaching in the wards under the form of conversation; and in the out-patient department addresses are delivered to many whom sickness and the hope of relief have acted as a special preparing of the way of the Lord. An old woman, aged seventy-four, was baptized in the spring, the fruit of hospital work. There is a weekly meeting attended by all the patients of the Women's Hospital, who are well enough, and a very few weeks' experience of these meetings makes the patients look forward to them quite eagerly.

"The following notes from the Dispensary Reports will be of interest:—

"*Wuchang*.—The work here was carried on at first by Dr. Hodge, but it is now receiving two visits a week from Dr. Mackay, who has recently set up in private practice in the city.

"*Kung-tien* (i.e., the new chapel in Hankow, E.) provided a dispensary ready prepared and free of cost to the hospital. Quite a different class of patients has been reached in this new centre and notably a good number of Hunanese.

"*Teh-ngan* and *Shin-chien-sz*.—The best tribute to the ability of Mr. Li to keep on the out-patient department is shown in the fact that the numbers have really increased on the previous year. The men patients at *Teh-ngan* are 100 more than last year, and the *Shin-chien-sz* patients have more than doubled. The women patients in *Teh-ngan* have also more than doubled. The total increase for the year is just 800.

"Of other dispensaries the *Han-chwan* has been the only one to make a report. Dr. Hodge has only been able to pay it three visits, for the rest it has depended on the care of Mr. Pell, J. N. E. Through his enforced absence during parts of last year the total number of patients seen has fallen below the high level of the year before.

"The medical statistics are as follows:—

			New out-patients.	Old out-patients.	In-patients.
Hankow	Men's	...	970	785	177
"	Women's	...	1,158	2,159	116
"	"	Children	984		
"	Kung-tien	Dispensary	555	340	
Wu-chang	Dispensary	...	774	855	
Teh-ngan	Men	...	2,738	No returns	
"	Women	...	598	"	
Kwang-chi	Dispensary	...	1,000		
Han-chwan	"	...	1,276	511	
			10,053	4,650	293
				(incomplete)	

MEDICAL MISSIONARY WORK IN SOUTHERN SHANTUNG.

The Rev. W. O. Elterich, writing in the *Church at Home and Abroad*, says that "the region to the south of I-chow-fu was practically unknown to the mission when the station was opened five years ago. During these years all its large towns and villages have been visited, and hundreds of books and tracts sold and distributed at the markets. It is a thickly populated district, extending to the Yellow Sea on the east, the Kiang-su province and Grand Canal on the south and the mountainous region of Central Shantung on the west . . . The people, as a class, do not possess an enviable reputation. They are said to be quarrelsome and turbulent, and it requires sometimes severe measures on the part of the officials to keep them down . . . A large proportion of the patients at our dispensary come from this region, and in many places the writer was welcomed as soon as the people learned he was from I-chow-fu. At places where a foreigner had never been seen before a friendly reception was accorded, because some one of their number mentioned having been at our dispensary and obtained medicine. A very wealthy gentleman, whose wife had received great benefit from the treatment of our lady physician, Dr. Larsen, celebrated the recovery by nine days' theatricals.

"We have made the acquaintance and secured the friendship of some wealthy and respectable families who, though they know the doctrine, do not have the courage to make a profession of their faith. While thus still outside the Kingdom of God they directly and indirectly help much to its becoming known among the people. They rebuke all reviling and tell the people that our motives are pure and the doctrine we preach is good and acceptable.

"This field is one of great promise, and we are praying and labouring in hope that ere long a rich harvest shall be reaped.

"Our medical work, which is such an aid to our evangelistic efforts, has steadily increased since its opening from an attendance of 2,500 to 10,000 last year. Our physicians, Drs. C. F. Johnson and A. M. Larsen, are much hampered, however, by lack of room and buildings. The dispensary is entirely too small for its purpose, and hundreds of patients are necessarily turned away. The Board has granted an appropriation for this crying need, but the money has not all been secured yet. The Gospel is daily preached to the crowds that come to the dispensary, but far better results, both physical and spiritual, could be obtained by a hospital."

AN INCIDENT FROM DAMASCUS.

The following incident, though not perhaps strictly admissible in the columns of a journal devoted to medical mission work in China, seems to us worthy of reprinting, as showing in a very marked manner the wonderful workings of God.

"A judge in one of the law courts of Damascus came in hot haste to the house of Dr. Mackinnon and besought him to rush off at once to the abode of the Chief Cadi.

"'What's wrong?'" said the English Hakeem.

"'Dakheelak! dakheelak! have pity and come at once!'" was the eager response; 'the Cadi's little boy, so dearly loved, is very, very ill.'

"It was evening, and Dr. Mackinnon, tired and hungry, would fain have sat down to dinner, but no—the call of duty and of mercy has a prior claim; so off he set. Arriving at the house he was promptly shown in, no tedious waiting, as is so often the case, ere one can enter a Moslem dwelling.

"The inmates were in great alarm; dread and disquietude were everywhere apparent. Ushered into the sick chamber the English Hakeem saw a child of three years, livid and well-nigh pulseless. A glance at the child, a glance around, and the diagnosis is made—opium poisoning.

"There and then began a struggle with death. For full two hours he fought and wrought, stimulating the dying boy and keeping up constant artificial respiration. A hard and anxious fight it was, but in the end death was routed. Slowly the flickering signs of life grew stronger and steadier, until at last anxiety began to lose itself in gratitude and in praise to God. With tears, and words of heartfelt thanks, the powerful Cadi embraced the foreigner declaring that through life he is his debtor. This startling incident occurred at a time when a question with regard to the purchase of the proposed Hospital site was being discussed in the very court over which this Cadi presides. Up till now he had not shown any marked interest in helping on our just claims; he had not bestirred himself to hasten on matters, as is quite within a judge's power to do. We did not, and we do not, cringe for favour, but we do ask justice.

"A change came over the Cadi. From that day he began to display quite a new interest in our pending lawsuit, and in the succeeding stages of the case seems to have done all he could to secure to us what of justice and of right can be extracted from the amazing intricacies of Turkish law."

MEDICAL WORK AMONGST WOMEN IN PEKIN.

The *Missionary Herald* in a recent issue published a letter from Miss Morrill, from which we make the following extracts:—

"The work in the dispensary waiting-room has claimed a large share of my noon hours. Several of the patients have had diseases that demanded a course of treatment, so I have had a chance for some regular teaching. One noon I was delayed at home, and on reaching the city found that it was nearly

time for the clinic to open, so I went to my class in the inner court. I was busy there when I heard the sound of women chattering outside, and on going to the door was greeted with, 'We want you to come and talk with us.' They had already received their medicine and usually would have gone home, but felt moved to inquire further into the truth. There were ten women at the door, and for lack of a more secluded place to take them I went to the waiting-room. There were others still waiting, and those women, much to my surprise, stayed with me nearly two hours. Such eager, earnest questions, as though they felt their need. After some questions and answers on the subject of sin and the means of being cleansed from its stain, one woman turned round to the others with such a bright look on her face and said: 'I understand, I understand; the Lord has given us these two hands, and he gives us water. He knows if our clothing is dirty or torn we can mend or wash that for ourselves, but when the heart and life get wrong we have no help for it, and then he will help us if we ask him.'

"There was an old blind woman there who begged the privilege of putting her hands on my head: she wanted to know how my hair was dressed. I tried to tell her of the home where the eyes of the blind would be opened, and while the dear old soul was delighted to hear about it she mournfully said: 'But after all, seeing there forever would not be nearly as good as seeing here for a little while.' Before we separated the women asked me if I would pray with them, since I had said that God wanted neither paper nor incense. So I offered a few simple petitions concerning their physical and spiritual needs. The room was very quiet, and more than one expressed their surprise at the simplicity of our worship."

LONDON MISSION HOSPITAL, TIENTSIN.

Dr. G. P. Smith, writing in *Medical Missions at Home and Abroad* on the work of the above hospital tells the following incidents:—

"When making the evening visit on Chinese Old Year's night the wounded soldiers were sitting round the fire eating nuts. Beside them lay a heap of cash. Thinking that I had possibly interrupted them in a night's gambling I asked, "What is this money for?" "This money," said they, "has been subscribed by ten of us soldiers to help the poor in the hospital." Very precious does this gift seem! A military mandarin, also from Port Arthur, handed us 10,000 cash. Whatever the Chinese may or may not be, one thing we notice, they are grateful.

"As they were sitting round at prayers a few mornings ago these patients, who have for weeks daily heard the Gospel, were asked, "Who can say, 'Jesus is my Saviour?'" Several at once said, "He is my Saviour." We

interrupted them and said, "Now stop! You would, we know, do almost anything to please us; but do not say this to please, for it must be said in the sight of God." Again the question was asked, and one after another calmly answered in the affirmative, until twelve had done so. The others wouldn't, or rather couldn't. A poor opium smoker looked up with a smile and said, "He is my Saviour too." Three of the soldiers have since given in their names."

T'AI-CHOW MEDICAL MISSION.

The following narrative of the conversion of the first in-patient of this mission has come to our notice:—

"This was the best case in the eyes of the natives; many and curious were the eyes that eagerly scrutinized the progress of this patient to see if the foreigner could effect a cure. It was a severe case of dropsy, a disease the Chinese place in the category of incurable diseases. Contrary to our own most sanguine hopes in two months he was quite cured, and an applicant for baptism. During residence here a poor but very zealous Christian was also under treatment for acute dysentery, and he exhorted this man and prayed by his bed-side most earnestly and fervently night and day for his salvation, while the pastor set forth the Gospel truths, and my teacher further testified to the same, both by word and also by unwearying vigilance in exhorting him to abstain from eating improper food, and also in frustrating him in continual attempts to consume the same. A doctrine which would lead men to such vigilant care of *others* must be a true one. These things, together with his rapid and complete cure (and we believe the faithful prayer of the poor Christian for the Holy Spirit's enlightenment was heard and answered), decided the patient to become a Christian. After six months' probation he was admitted to baptism, and his faith was soon severely tried by the illness and death of his mother and his wife's illness. In these trials he remained steadfast in spite of the representations of his friends that all this was due to the anger of the idols and ancestors, whose sacrifice and worship he had despised and forsaken."

MEDICAL WORK IN THE SHANSI MISSION.

In an article with the above heading in the *Missionary Herald* the Rev. I. J. Atwood, M.D., of Ten-cho-fu, says that "the general ignorance of the people makes the treatment of their diseases outside of the hospital walls exceedingly difficult. The uncertainty of their following directions with any degree of intelligence, except in the most simple cases, makes the outcome in most cases very uncertain.

"The extent to which they are controlled by ignorance and superstitious fears is a considerable factor in the problem. A calamity that recently befell a community in our near vicinity illustrates this to such an extent that it may be worth relating. About three o'clock one recent afternoon a military graduate and some friends came to the dispensary and besought me to go to their assistance. They said that nine men had gone down into a cellar, one at a time, in which were stored spirits of wine and meats. Each one as he reached the bottom of the cellarway gave a sharp cry and fell insensible into the vault. They said they believed some infernal spirit or ghost seized the men as they descended and dragged them inside and smothered them. One, a scholar, said there lived in the vault an aged scorpion of gigantic size who was able by drawing in his breath to draw all the blood out of the men's bodies, or by blowing out his breath could fill them with a deadly poison. I was asked if I could render any assistance in this terrible condition of affairs.

"Surmising that the men had been asphyxiated with carbon gas I immediately took a jug of ammonia and hastened to the scene of the disaster. The wine shop was on one corner of a cross roads and the people jammed the roads in every direction, so that it was with difficulty we forced an entrance and the doors were closed behind us with a bang, to shut out the surging crowd.

"Arrived at the cellarway we saw a ghastly sight—a heap of men entangled in a mass, with here and there a ghastly face or hand protruding from the mass. The stupid crowd at the top had at length, after the cost of nine lives, learned better than to descend into the deadly vault, and were vainly trying to fish their comrades out with meat-hooks at the end of ropes. The cellarway was about thirty feet deep, and they made but little progress. One had been dragged out, but lay lifeless. It was the work of a minute to pour the ammonia down the hole. In a few seconds one man who lay a little to one side of the rest began to stir a foot, and at length an arm, and soon in answer to the shouts of the crowd he seized the hook and hooked it into his girdle and was hauled out of the death-hole.

"The others were buried up by one another so much that they could not have breathed the ammonia fumes, even had there been life enough. But a noose was made at the end of a rope, and while a foot was raised from the ground by a hook the noose was slipped over and the corpse drawn up. The other eight were asphyxiated beyond hope of recovery. A little intelligence, applied two or three hours before, might have saved these eight lives. The magistrate came while we were there and held an inquest. The owners of the shop were made to pay a large sum to the survivors of the dead and to close up the distillery and saloon (for such a combination it was), as the neighbours would not endure such terrible goings on in the neighbourhood. Some said they had seen and heard the venerable scorpion in the night "

Dr. Atwood, in the same article, states that "the number of attempted suicides by swallowing opium seems to be increasing, and the work of rescuing them has proved such a tax on the time and strength of the foreigner that this part of the work has been given over almost entirely into the hands of a trained native assistant."

THE ENTRANCE OF PROTESTANT MISSIONARY WORK INTO HAINAN.

The Rev. F. P. Gilman, of Hainan, writing to the *Church at Home and Abroad*, tells the story of the entrance of Protestant missionary work into Hainan. The work was begun in 1881 by Mr. C. C. Jeremiassen, of the American Presbyterian Mission:—

"Before Mr. Jeremiassen came to the island he had prepared himself for medical work; by means of this form of activity our mission has been introduced to, and established among the people. When Mr. Jeremiassen came there was some doubt whether a foreigner could travel safely through the interior, which had been notorious as a resort for pirates. In the second year he made a long inland journey, going all around the island, keeping a few miles from the coast. On this trip he was everywhere met in a friendly manner by crowds of natives, who flocked to him to secure his medical aid. The next year in travelling farther into the interior he found near Nodoa a colony of Hakkas, and having secured a native preacher from the Basle missionaries, who had worked for many years among the Hakkas living north of Hongkong, he placed this preacher among the Hakka colony near Nodoa.

"Mr. Jeremiassen afterwards visited his native preacher during the time when an epidemic of fever had come to the locality, and had especially attacked a body of soldiers who were temporarily in the vicinity. They were dying in great numbers from the fever, but of those who came under Mr. Jeremiassen's care not one died. His success was so marked that the anti-foreign mandarin who commanded these troops called Mr. Jeremiassen to him and asked if he could do anything to assist him in the care of his troops. Mr. Jeremiassen told him that he would like very much to have a hospital where he might collect the sick together . . . The Chinese General told him to go outside of the town and select any piece of land which would be suitable, and that he would give it to him when the expedition was finished, and that he would also assist him in putting up a cheap building as a hospital. On this piece of property is now located our hospital, chapel, preacher's residence and missionaries' residence."

After giving an incident in proof of the statement that the medical work has been the means of removing superstition Mr. Gilman points out that it has also been the means of bringing quite a number under the influence of the truth and has led to their conversion.

"The case of a young man who was baptized last year in Kiung-chow is a remarkable example of this. He had come to the hospital the year before blind in both eyes. His eyes were operated upon for cataract by Dr. McCandliss, and his sight was partly restored. As he remained under treatment for several months he attended daily the hospital prayers. As he heard the Word of God read and explained he became interested, and was led to see God as the true and living God. His spiritual eyes were opened, he recognized Jesus as his Saviour and he therefore came asking for baptism.

"When he was questioned as to his religious history he said that when he began to grow blind he had been a fortune-teller, and he then began to pray to the idols for the preservation of his sight. Instead of getting better his sight gradually faded out. He then lost faith in the idols and began to pray to Heaven under the name by which the true God seems to be described in the Confucian books which are taught in every Chinese school, and one day, as he was standing outside of the door of his house, with his sightless eyeballs turned to the sky, according to their custom, asking Heaven to restore his sight, he was asked if he knew that there were foreigners in Kiung-chow who worshipped Heaven and who had the power to remove blindness. He was then directed to go to our physician, which he accordingly did, with the result described. His further history is interesting. When he returned to his home he began to instruct his family in respect to what he had learned in the hospital, and is at present a lay preacher travelling from place to place on the island."

"I'LL SHOW YOU MY NECK."

Dr. Peck, of the Williams' Hospital, Pang-chuang, contributed the following incident to a recent number of the *Missionary Herald* :—

"Years ago, while living at Pao-ting-fu, a little man made his appearance at my hospital with a large tumour on his neck. He had never seen a European before, but came with his mind fully made up for an operation, owing to reports he had heard of us in his country home from patients who had been at the hospital. Against the remonstrances of his friends and neighbours he had sold his little property, in order to get money to live on. His simple reply to these remonstrances was that his life was made a burden to him by his tumour, and he was going to try the foreign doctor, and in the expressive idiom of his

language, if he was "*cured well*" he could earn more money, and if he was "*cured dead*" he wouldn't need it. The foreign doctor tried to persuade him against so formidable and risky an operation, but without avail.

"Fortunately he lived through it, and the healing of the wound went on normally until delayed by a rather severe attack of erysipelas.

"Before this danger was passed he sent word by the gatekeeper that he must go home, as his money was spent. I replied that he must on no account go then; that I would feed him myself; but the next morning he was missing. The gatekeeper said he went with his little roll of bedding at daylight, saying that he was already greatly indebted to us for what we had done for him, and would not think of burdening our hospitality by *eating our food*. So he vanished into the unknown from whence he came, and we concluded that he would probably die. Months afterwards one of our colporteurs, reporting the incidents of a tour in a region seldom visited, asked me if I remembered such a man. I said I did, but supposed he was dead. He said he was not; he had found him alive and well and preaching the Gospel at a fair.

"While in the hospital he had seemed very stupid; no one thought he had taken in much of the truth; but he had bought and paid for a little elementary book and learned to read it. The simple explanation had remained in his memory, and after his recovery at home he had taken his book with him when visiting the little fairs, where all the business of neighbouring villages is done; he had been notable as the man with the large tumour, and now when he came around without it he was naturally an object of curiosity.

"They said he kept a kerchief around his neck, and when the crowd gathered round him he would say: "My friends, when I was in the hospital they taught me of a religion there that is far more precious than the cure of my body. I have a little book here which tells about it, and if you will sit down and let me read and explain it to you *then I'll show you my neck*."

"And so a self-appointed evangelist had been telling his story. That place is one of the most encouraging of the out-stations around Pao-ting-fu; a circle of believers is gathered there, and the little patient remains a humble and converted Christian."



WUHU HOSPITAL, METHODIST EPISCOPAL CHURCH.

The Report of this Hospital for the sixteen months ending September, 1895, is full of encouragement. The notion that the Hospital was unfortunately situated, in that it was two miles from the busy portion of Wuhu, has been

dispelled, the hospital having been full. The total number of in-patients was 717. The surgeon holds the appointment of Customs' surgeon, with the result that it has not been necessary to ask the missionary society for funds to support the Hospital. We endorse heartily the opinion that "if this arrangement is continued the officials of the mission should endeavour to relieve the doctor once in a year or two, that he may have a rest." If medical men and ministers at home require an annual change of air we cannot see why a man who combines both offices in a trying climate should be expected to work all the year round.

"Four complimentary boards have been presented as testimonials by grateful patients. The centurion showed his gratitude for amputating a hand for his servant by bringing the tablet with an escort of seventeen soldiers. The approach to I-ki-san was heralded by braying of trumpets and firing of muskets as the company marched along the shore of the great Yang-tse. The gift was presented by the captain between the guard ranged upon the opposite sides of the walk and, as the soldiers presented arms, the hills and valleys resounded to the din of the fire-cracker. The sentiment was Eo Si Yuen Hwa or the Yuen Hwa of the extreme west. Yuen Hwa was one of ancient China's famous surgeons who flourished during the golden age when China contained the brainy men who invented gunpowder, movable types, etc."



The China Medical Missionary Journal.

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No. 1.

Editorials.

We have great pleasure in presenting our readers with a full index of our Journal up to the present date. For its completion we have to thank the Rev. G. A. Clayton, of the Wesleyan Mission, Hankow, by whom the greater part of the work has been done. We have also to thank several members of the Association, who very kindly wrote and offered assistance in the work ; if we have not accepted those offers it is only because there were so many difficulties in the way of carrying out the work on those lines that we delayed in the hope of finding help nearer home, help which we finally obtained. We ask them to excuse a personal reply to each letter and to accept this public acknowledgment of their goodwill. The need of an index has long been felt, and we trust that it will in future be a yearly institution ; we hope the present one will help to make the journal, that which it should be, a useful reference library to the busy medical missionary. The Index of Authors is very interesting ; it suggests many practical reflections, and we commend it to the thoughtful and repentant consideration of many of our members.

We must apologise for the delay of the March No., rendered inevitable by the labour involved in preparing the Index. It has seemed best, for financial and other reasons, to amalgamate the March and June numbers into one issue of a larger size than usual. The Indices are bound separately for the convenience of those who wish to bind them up with the previous issues of the Journal.

We have been surprised that the very important letter of Dr. Beebe in the December No. has called forth no communication from any member of the Association. We cannot believe that the subject is not interesting to the Association, and we are loth to fall back on the explanation that there is an inability to see the relative importance of

various questions; there remains, therefore, only one other way of accounting for the silence, and that is *sheer apathy*. It is a melancholy but true fact, the explanation of which we will not now attempt, that this very serious complaint has long afflicted our Association and threatens one day to prove fatal. Whether it be in serving on a Committee, or accepting the responsibilities of an office, or in doing any work *pro bono publico* of the Association or Journal, one is constantly meeting with this terrible disease. We have known members of the Association meet in consultation over this malady, acknowledge that they themselves are afflicted, prescribe active remedies and correctives, and then be nothing bettered but rather made worse. Was ever any disease so obstinate! To return to the subject of Dr. Beebe's letter, it must commend itself in its broad principle to all who hope to see a useful native faculty one day in existence. It deserves, therefore, and we trust will obtain in future numbers of the Journal, the thoughtful consideration of those who are training native students. We content ourselves with two criticisms: (1) The meeting of the examiners "once a year at some central point to examine all applicants for the diploma" is, in our opinion, on many grounds not feasible. The various candidates can be examined by means of printed papers at several centres at once, but always *under the eye and control of a foreigner*. (2) A fee should be charged for the examination, both to cover expenses of the same and to guard against the common notion that what is cheaply obtained is of little value. Whilst we avoid making the conditions of examination so difficult as to shut out many promising candidates, let us not fall into the opposite error of making them so easy as to waste the examiners' time over any nincompoop or otherwise undesirable aspirant.

The list of questions drawn up by the Committee on the Opium Report will be found appended to the front of the present issue on a perforated slip. The questions have been drawn up under great difficulties, and, in fact, to get them out at all a good deal of personal responsibility has had to be assumed by one of the members. He believes they will be found to embody all that the other members of the Committee wished to see included and asks their indulgence for not forwarding a final proof, pleading the difficulties of time and distance and the urgent need of delaying no further. We trust that members will carefully, and from personal experience, answer these questions; we call their especial attention to the note appended to the foot of

the page relative to information which any member can give outside the scope of these questions. Note also the date on which answers have to be returned to the Editor.

The mention of this Committee leads us to advert very naturally to Dr. Cousland's plea in the present No. for medical statistics. With that plea we have a great deal of sympathy, and shall rejoice if any good and useful work can be done in this direction ; but we implore Dr. Cousland to spare us the infliction of another Committee. It will run the way of all our Committees and do nothing, for the obvious reason that its members cannot consult. We suggest that the best Committee for this purpose is Dr. Cousland himself, who will do the work *con amore*. We shall be very glad to offer him the pages of our Journal for this purpose and to afford him all help in our power. Even so, with the greatest care, we must remember statistics are very unreliable things ; persons classify and often diagnose very differently, and all this will affect the result. Still much useful information may be gathered if the work is done carefully, but we are of opinion that the statistics should be on certain diseases only, and confined to cases treated inside the hospitals. The reason for this suggestion is that out-patient practice is frequently such a rush that there is seldom time to make a careful and accurate diagnosis, and so the chance of error in the records will be much greater.

In the last number of the Journal we ventured to point out some, in our opinion, errors of commission in the Constitution of the Society. It is our intention in the present article to indicate some errors of omission and to respectfully commend them to the attention of the members. Dr. Whitney, in a letter which we are publishing, has formulated some propositions for revising the Constitution, and, in a private letter to ourselves, has suggested that a special circular be sent round to the members, giving the required two months' notice of the same. We trust the doctor will forgive us for not having accepted his suggestion ; we felt that the matter was too important to be thus hastily dealt with, that there were other subjects which had not been touched on and other views of the matter which had not been expressed ; in short, that it would be wise to make haste slowly. But, further, the suggestion was that these two months' notice be issued on the supposition that there would be a meeting of the Association in May in Shanghai. Now by Art. I. of the By-Laws the only person who can summon a meeting of the Association is the

President. It was obviously useless to issue circulars before we knew the President's views on the subject of a conference, and as the President lived in Pekin, instead of next door to us, the time that must necessarily elapse before he could be communicated with made it impossible to act as Dr. Whitney suggested.

To proceed then with our criticisms. Article I. of the By-Laws is too meagre. As it stands it can be interpreted by any President to mean not only that he must *call* the meeting, but that he, and he alone, is to decide the *necessity* of the meeting. It is usual in such an Association as ours to make it possible for a certain number of members, the number being fixed, by signing a requisition to the proper authorities, in this case our President, to convene a meeting of the Society. Most societies having at least one regular *annual* meeting, such a meeting would be an *extraordinary* one; but as our Association, owing to the peculiar circumstances under which we exist, has no regular annual meeting, there exists no necessity to so style such a meeting. Such requisition should be signed by not less than — members, and should state the object or objects for which the meeting is called; the presidential call for such a meeting should give a certain length of notice (to be fixed by law) and should name place and time of meeting and also state the general or particular business. Article II. makes no provision for the chairmanship of a meeting in the absence of both President and Vice-President; such a contingency actually occurred during the last medical conference in 1890; further, nothing is said as to what constitutes a quorum of a meeting. This last point will not be an easy one to settle, as the long distances the majority of our members have to travel to a conference, and the expense involved, both tend to make our attendances small. A more important point it seems to us is whether or no the resolution passed at a conference should be final, whether it would not be better to report the discussion and voting in the next Journal and take a final vote of all the members of the Association by means of voting papers in the Journal; another solution would be to allow members to vote by proxy, but on many grounds this is undesirable. Article III. is good enough as far as it goes, but, when one remembers that all the duties of the Secretary there enumerated refer only to the time of a conference, and that, practically, all correspondence is done with the Editor of the Journal, one asks what has the Secretary to do? Already one Secretary has resigned, because he considered his tenure of the office “a burlesque,” and though we do not entirely agree with him, yet the actual wording of Article III. gives him

some ground for his opinion. We would suggest that it should be the Secretary's duty to receive all nominations, that before forwarding them to the Editor he should forward a copy of the Constitution and By-Laws to the candidate for membership and ascertain whether he or she accepts them ; that on the election of a member he should communicate the fact to him ; that he should keep a roll of all three classes of members, with their addresses, and publish a revised list annually in the Journal. We are further of opinion that as the Journal is the official organ of the Association he should be very closely associated with it, and that he is the proper person to superintend the collection of subscriptions and make the financial arrangement for advertisements, etc. If this suggestion were acted on there would be no necessity to alter the first clause of Article IV. ; the Treasurer would still "receive" from the Secretary the monies collected. The whole subject of the collection of subscriptions, however, needs looking at, and fresh arrangements making. Our belief is that the best solution will be found in putting the keeping of the books, collecting subscriptions, etc., into the hands of a business man, who would do it on commission ; it being always understood that the Treasurer alone can authorise the payment of any bills. As our Association meets only once in several years there seems to us great need of some small central body, similar to the councils of the large home medical and other societies, to manage the affairs of the Association, and to which could be relegated many practical details of administration which at present belong to nobody in particular, *e.g.*, the auditing of accounts ; the filling up of any vacancies caused in the ranks of the officers of the Association by death or resignation ; the arranging for and fixing the details of a conference, general or local ; the formulating and recommending of any new legislation to the Association ; the initiative action in any question affecting the Association as a whole or the cause of medical missions throughout the world ; to be a permanent Collective Investigation Committee and a General Committee of Management for the Journal. If the officers were reduced to the five we mentioned in our last article they would conveniently form such a council, with the President as their Chairman ; such a council should meet once a year and have their travelling and other expenses defrayed by the Association. The importance of this proposition cannot be adequately put forth in this article, but after a fairly intimate acquaintance with the affairs of the Association, since its formation, we deliberately say that unless such a step is taken one of two things will happen—either that the Association will die of sheer debility, or the Editor of the Journal

will practically be the Association—both very undesirable results. We mention but two other matters. One is that we think the time has come for legislating on the subject of prompt payment of subscriptions, the other is that the formation of local branches of the Association should be under some recognised regulations. At present their relation to the Association is nebulous, their privileges are nil, their officers have no *locus standi* outside their own body. Their formation should be encouraged for many reasons, and they should have the power to elect members to the Association without appealing to the vote of the whole constituency.



Reviews.

"FRED. C. ROBERTS OF TIENTSIN."

A REVIEW.

It was with mingled feelings of satisfaction and fear that we learnt that the writing of the memoir of Roberts of Tientsin (to use the title by which we have learnt to speak of him) was entrusted to Mrs. Bryson. Mackenzie of Tientsin, Gilmour of Mongolia and Roberts were kindred souls, and we felt that it was but right that one who had so beautifully portrayed the lives of the two former should write of the last. But we were afraid, lest the work should fall below its predecessors in literary style and, through this, should meet with criticism which would diminish its sale and prevent the attainment of the hope of the authoress, as stated by the Rev. F. B. Meyer in his "Prefatory words," "that, as in the Old Testament story, many a young life, touching the grave of the prophet, may live, may be baptized for the dead, and may dedicate all to the cause for which Dr. Roberts counted not his life dear." We are glad that our fears were groundless. Just as fittingly as Roberts was laid to rest side by side with Gilmour and Mackenzie in the English burying ground at Tientsin, so will this volume be placed side by side with its two predecessors on the book-shelf by every lover of biography. In literary style, in skilful arrangement of the materials placed at her disposal and in sympathetic insight into the character of her subject, the authoress has maintained her former standard. Higher praise than this we need not bestow.

There is another fact that we cannot refrain from mentioning. Mrs. Bryson is, as we have noticed, a successful biographer,

and was an intimate friend of Roberts. If she had obtruded these facts on our notice she might have pleaded the example set by the authors of many recent biographies. She has entirely overcome this temptation, the only references to these things being such as any other biographer of Roberts must have made. Take, for example, the reference on page 204 to her former writings. "Dr. Roberts was always deeply interested in any work he thought likely to increase sympathy with foreign missions. He took an active part in the preparation of the memoir of his beloved predecessor, Dr. Mackenzie, reading the manuscript through with the writer and suggesting many alterations and some additions . . . a short sketch of Gilmour's life was also written with his help." This is typical of the personal references throughout.

That certain details of the work might be criticised we do not deny. But after reading the book we are not inclined to dwell upon details. We prefer to devote the space at our disposal to a glance at the contents of the book as a whole.

"He is a wonder. Most careful in his work; he has done twenty-five years' work in seven years: a man of his nature could not go slow." When Dr. Frazer said that he voiced our feelings after reading the biography. From the autumn of 1880, when at eighteen years of age, Roberts "commenced the medical duties which were to fit him in future days for that loving service among the sick and the dying which made his name a household word in many a home over the bare plains of North China," to the day when he finished his life's course he worked at high pressure.

The letters written during his student life at Edinburgh show how faithfully and conscientiously he worked. "For the true medical student," he writes, "there are very few holidays: I fear they are a thing of the past." Nor was the time that his duties did not claim, spent in idleness. Both publicly and in the quiet by-paths of daily service he worked hard in the service of his Lord. At the free breakfasts in the Drill Hall, in the wards and at the Sunday services in the infirmary, in connection with the great wave of religion which swept over the University in 1884-5 and the meetings which were afterwards continued in Edinburgh and elsewhere, Roberts found opportunities for work which he seized upon with avidity. In July, 1886, he successfully passed his final examination, whereupon he wrote to his sister, "Medical work has all at once become doubly interesting to me, because I am for ever free from the slavery of exams. I feel I shall make far more progress in my work now than ever before." With this feeling many of our readers will sympathise.

Long before he commenced his medical course Roberts had had his attention turned to the needs of China, and soon after he had qualified he wrote to his sister Mary, who afterwards joined him at Tientsin: "I feel my work is not in England; I don't wish it to be. The teeming multitudes of sick in soul and body call for help louder than any Macedonian messenger. Mine is the upward look for the pointing of God's hand to China and its millions. Oh, when will the message come, and with it the needed power and grace?" The call came one Sunday when Mr. Hudson Taylor spoke in Dr. Whyte's Church. "The Lord, I believe, spoke through him to me, assuring me of His will to send me to the heathen abroad." When once that call was heard Roberts responded to it with the same enthusiasm which we have seen him putting into all his work. Nothing could be more decisive than the following senten-

ces from one of his letters to his father: "I feel truly grateful for the guidance I have received . . . and if, as I fully believe, He is calling me to China as a medical missionary to China I shall go, though all the directors of all the missionary societies in London unanimously reject my services."

After a tour on the continent, undertaken for the sake of his friend and future colleague, Dr. G. P. Smith, Roberts returned to London and made his offer to the London Missionary Society. He was accepted, and was appointed to be Gilmour's "long-awaited-for earnestly-prayed-for colleague." He sailed in the autumn of 1887, and in due course reached Tientsin, where the directors of the London Missionary Society wished him to remain while he gained some knowledge of the language and of Chinese medical work. The story of the growth of the medical work in this town is to be found in Mrs. Bryson's biography of Mackenzie. Those who have read that volume and know the beauty of Mackenzie's life will agree with the statement that to have been in Tientsin at that time would have been an inestimable privilege. But imagination fails us when we try to picture that day of which Roberts writes: "The chief news is that Mr. Gilmour has arrived. I had been out with Dr. Mackenzie and, on our return, heard that he had come. Entering the study we found Mr. Gilmour, dressed in Chinese clothes." What would we not give for a report of the conversation between these three?

Gilmour was called away within a few hours of his meeting with Roberts, and it was not till the next year that Roberts joined him in his work. We notice Mrs. Bryson's statement that after his arrival Roberts so loyally followed the lead of his senior colleague "that the general impression of the people at first was that the young missionary had come to learn the art of healing from Gilmour!"

For over eight years Gilmour had longed

for a qualified medical colleague and with Roberts' arrival his longings were satisfied. But he had soon to see his dearest plans shattered. "It was on a bright April day, while Gilmour and his young medical colleague were busy attending to the crowd of those afflicted with many diseases . . . Suddenly there was a stir among the people, as a dust-covered courier appeared, looking as if he had travelled fast and far . . ." "What news do you bring?" asked the missionaries; but the man only shook his head and groaned audibly. On the way to the poor Chinese inn . . . the question was repeated, but with the same result. Too anxious to wait longer Gilmour drew the man aside into a quiet corner and demanded the news at once. It came slowly and sadly: "Dr. Mackenzie is dead, after a few days' illness." Entering the bare room of the inn the man opened his broad blue girdle and took out of it a little bundle of letters. . . . It seemed as if no more crushing blow could have fallen upon any mission. Gilmour was trying to realise what it meant . . . suddenly his young colleague looked up from his letters and said one of them enclosed a telegram from the Directors of the London Missionary Society, requesting him to leave for Tientsin immediately and take charge of the hospital there." For forty-eight hours Gilmour was almost overwhelmed, but grace proved triumphant, and "after much united prayer" Gilmour and his young colleague came to the conclusion that it was the duty of the latter to proceed at once to Tientsin.

Writing home during the journey Roberts says: "What an interesting, happy work is before me! A hospital which will accommodate over sixty in-patients, a large dispensary and consulting room, a strong staff of Christian assistants; while for colleagues in the spiritual work I shall have a band of happy, united workers." Little did he think of the peculiar difficulties that lay before him. For some

time before Mackenzie's death the Viceroy and other officials who had supported his work had felt that the hospital, in so far as it was a Christian institution, was conducted in a manner which they could not approve. It was undoubtedly due to the wonderful influence which Mackenzie exercised that they hesitated to withdraw their support from him. But as soon as he was dead their opportunity came. They withdrew their pecuniary aid, tried to claim all the buildings, drugs and instruments, and erected a government hospital, which they staffed with the most distinguished of Mackenzie's students. Roberts' feeling through all was, "I am sure that God is with us."

But though these difficulties could not deter him from carrying on the work they became the first cause, from a human standpoint, of the shortening of his career. Dr. Mackenzie, as we know from his biography, was seriously overworked, although he was assisted by his qualified English-speaking students. Roberts had to take up this already over-great work single-handed, as the few assistants who remained with him were not accustomed to the diagnosis of disease. "For some time he changed every dressing and bandage himself." The task was great; Roberts' faith and devotion were greater, and within a year it was clearly seen that the hospital had more than maintained its position. The years that followed were years of ceaseless toil. Morning, noon and night—sometimes all through the night—did the doctor labour as well for the spiritual as for the physical healing of the patients. Nor was he disappointed. Within the pages of this book there is ample proof that medical missions are a truly missionary agency. We gather together a few of the incidents narrated.

"One man, Liu Wei-hsien, has come back to Tientsin after an absence of one and a half years. He was baptised as a patient; and, going home, took fire, all

alone, for the Gospel's sake. One day this spring he was at death's door, and his friends all taunted him, saying that his sickness was owing to his strange religion (his faith in Jesus Christ); but he replied that, even if he died, he would never return to idolatry or give up faith in his Saviour." "One man who left us in the spring, thought by the native hospital assistants to be a hypocrite, has turned out A 1. He has burnt his idols and got four men in his village to destroy theirs, and is giving testimony to many. Altogether there are now eight enquirers in the neighbourhood of his home." "The patient was a man of some little rank . . . Some injury to the leg had been so maltreated by native doctors that it had endangered his life . . . The leg was now nearly healed . . . Nor was the bodily cure the only one that was going on. The gentle, patient, sympathetic care of his skilful Christian physician . . . was winning its way into the heart of at least one: the sick man had spontaneously put away his idols, and was diligently studying a little elementary book of Christian teaching . . . The man had not yet found his Saviour, but seemed to be feeling after Him."

To most it would seem that Roberts had in Tientsin a sphere of usefulness in which he could have expended all his energies. But he knew that there was other work which needed to be done, and therefore he could not rest. So to his hospital work he added the task of itinerating in the country districts around the city. These journeys were mostly undertaken for medical and evangelistic purposes, but on more than one occasion he went for the purpose of distributing relief amongst those who were suffering through famine, flood and rebellion. Many extracts from his accounts of these journeys could we make. We content ourselves with one simple extract from the doctor's diary: "Saw sick till sundown; supper at six; then, from 6.30 to 8 p.m. talk upon the fundamental truths of the

Gospel, and was much helped in speaking; evening meeting from 8 to 9; subject, Matt. v. 1-16 . . . After this some of the Christians came into the room in which I sleep, in the old chapel, saying: 'It's only now and again we see you; let us stay and have a chat' . . . This was a lively prospect after a long day's work, but I felt more than cheered that they cared to talk of these things, and were so friendly. When at last they left I turned in to rest."

It was at the end of one of these itinerations, early in 1894, that Roberts returned to Tientsin to find that his colleague had been attacked with influenza. Under the pressure which Roberts brought to bear upon him, pressure which seemed the more justified, because Roberts was hoping soon to take his furlough to England, Dr. Smith reluctantly agreed to take a trip to Japan. The doctor continued the work, and seemed quite well, though tired, until May 29th, when he felt poorly, and was induced to go to bed. He never rose again. "The disease was very mysterious," says one of his colleagues. "It seemed as if some virulent fever had struck at once at the life centres . . . Perhaps the general Godward turn of his mind is the sweetest remembrance of those sad days . . . The fever had completely left him on the Tuesday, but he had no strength to rally after it. I believe he was completely broken down, shattered by over-work; first of all in Yen-shan, and then during Dr. Smith's absence in Japan . . . We all did our best for him, but God considered the harvest of his life ripe, and reaped it."

Shall we close by discoursing on the evils of overwork? We think we would rather quote the words of one of Roberts' friends: "You can't reason about such men. It's no use blaming them; they cannot help it. It's no use thinking of them as not having lived to do their work. His life of seven years will tell more than if it had been spread over twenty."

G. A.C.

THE VALUE OF LOCAL TREATMENT IN SEPTIC
INFECTION OF THE PUERPERAL WOMAN.

BY DAVID JAMES EVANS, M.D.

Theoretically this is an admirable paper, but to us it seems to savour more of the study than of the lying in chamber. It is most desirable that we should know exactly where the seat of the mischief is in all cases of so called puerperal fever (we are rather surprised that the author of this paper has not advocated thorough exploration of the interior of the uterus with the electric light), but human nature being what it is we are bound to consider the feelings of our patients; to make such an examination as Dr. Evans proposes, in all cases where we are in doubt, we believe would be productive of far more harm than good.

Septic infection from wounds of the vaginal walls or cervix uteri ought to be prevented by treating those wounds on the same principle which guides us in treating wounds in other parts of the body, namely keeping them clean. An antiseptic vaginal douche night and morning, which can be given by a nurse without exposing the patient and with very little inconvenience, is all that is necessary.

In the same way while admitting the value of the curette we feel that the writer's "prompt and energetic treatment by means of the curette brush and douche" will very seldom, if ever, be necessary in the practice of physicians, in whose hands only it would be a safe operation.

A. M. M.

REVIEW.

眼科證治. A new book on Diseases of the Eye, translated by J. B. Neal, M.D.

In the English preface to this book we are informed that it is a translation of the more important parts of a "Text book of Ophthalmology," by Drs. Norris and Oliver, lately published in Philadelphia. The nomenclature followed is almost entirely that of Dr. Kerr, of Canton, the trans-

lator having wisely judged that it was better to adhere to the terms now so widely used and understood than to confuse his readers by introducing new terms. The introductory chapter has been adapted from Osgood's translation of Gray's Anatomy.

Dr. Neal has spared neither pains nor expense in his endeavour to produce a book which he hopes "will be of some assistance in training up a body of well educated native practitioners of Western medicine in China." The type is large and clear, and the woodcuts, illustrating the instruments used in ophthalmic surgery, are very well executed; the plates are the same as in the original work, and are a most valuable addition to the translation.

Snellen's test type is here cleverly adapted to the Chinese character, and will be found exceedingly useful in dispensary practice.

Having said so much in favour of the book we would gladly go further and express entire approval of its pages. This, however, we are unable to do, for Dr. Neal has been unfortunate in his choice of a Chinese writer, and the book abounds with obscure phrases and unnecessary characters, such as we usually see in Chinese literary essays, written on nothing in particular, but which are altogether out of place in a book intended to convey definite information on an important subject. There can be no doubt that Dr. Neal made the subject of this treatise plain enough to his writer, for the first draft of the book was used in instructing his own class of students before being put into its present form, and any defect would then have been discovered; but, it is not easy to make a Chinese understand that a book—especially a medical or scientific book—should be written with the one object of instructing the reader, and not for the purpose of showing off the writer's cleverness in the use of obsolete characters, or the "depth" of his *Wên-li*. Some portions of the book are written clearly enough, for the writer's style is

very irregular, but even these are not all free from error; for instance, on page 67, the student is warned not to remove too much skin from the eyelid, lest it be rendered too short to cover the ball; "*a piece one inch long and half an inch wide will suffice!*"

We have placed the book in the hands of several medical students and teachers, who are accustomed to read both native and foreign medical works, but they all declare that it is "difficult to understand," and therefore of little use as a text book for students.

We are sorry to be obliged to record and endorse this verdict, and venture to hope

that, ere a second edition is issued, Dr. Neal will have the book thoroughly revised, or rather re-written by a man more used to such work than the scribe he has employed in preparing the present issue.

A. D.

We have to acknowledge the receipt of three or four numbers of the China Customs' Medical Gazette and also of the Annual of the Universal Medical Sciences for 1895 (5 vols).

We are compelled by want of space to hold over our review of both these till our next issue.



Query and Answer.

Wanted.—1. Formula for a good cheap effective liniment and plaster. Camphor is too dear now, and drugs from home not cheap enough. Is there anything but capsicum to fall back on in the south? I should explain that they are for aches, pains and sprains.

2. A good way of keeping rubber. Pure rubber gets soft, vulcanised brittle. This is an old trouble. Has anybody a new tip?

3 Book beetles and grubs. Best method of disinfecting a book case and books. Tried sol. of corrosive sublimate 1—100 and turpentine without effect.

P. B. S.



Notes and Items.

The following extracts are taken from a very interesting paper on "Strange Medicines," in the *Medical Magazine* for November: "Flies are of great use to man, for their heads, when pounded up and used as pomade, form an infallible hair restorer for the head, beard or eye-brows . . . Bats are harmless animals and of great value in medicine; their flesh, applied as a poultice, is a sovereign cure for the stings of scorpions; roasted and eaten they dry up the excess of saliva in infants, and will cure sterility due to an excessively moist temperament . . . Every one knows that lice are used with white wine as a cure for jaundice; also in difficulty of micturition they are put alive into the urethral canal, so as to stimulate the expulsive faculty by their movement . . . There is nothing better for that dangerous disease—lethargy—than to put fleas in the patient's ears" . . . Speaking of bugs "certain devout and religious people" have been known to "put those animals in their beds, that they might be the more wakeful to contemplate divine things. One purpose of their creation was, doubtless, to keep us from pride . . . But the main object of the creation of bugs was the benefit of the sick. They are of remarkable efficacy in the hysteria of females, if one puts them in the patient's nose . . . for other smells such as snuffed candles, lamps and burnt feathers are as nothing compared with this. Seven bugs taken in barley water are of great value in quartan ague and for the bites of scorpions. Cooked in wine and vinegar they make leeches fast, and are useful in many other ways well-known to physicians." Heaven has certainly been bountiful to China and well stocked Nature's Dispensary.

Dr. Patrick Manson, in an address, which he gave before the Hunterian Society last February, drew attention none too soon to the lack of instruction in the medical schools in tropical diseases. We do not know how it may be in America, but we are sorry to say that the following words are absolutely true of England: "The student who proposes to enter the army or navy or the colonial services, or to become a medical missionary, or private practitioner in some tropical country, has no opportunity of learning, in any hospital or elsewhere, anything about the principal diseases he will be presently called upon to treat. The doctor who goes to the British colonies may find himself in a tropical wilderness amongst strange diseases and strange people, and is told to practise . . . Plenty of malarial cases can be found in the neighbourhood of the docks, also cases of beri-beri and dysentery and other tropical fluxes, liver abscess, mediterranean fever, ankylostomiasis, filariasis and other exotic diseases. This valuable clinical material is running to waste; whereas it might easily be utilised for teaching purposes. There is, says Dr. Manson, no place in the world, perhaps, where so great a variety of tropical diseases can be seen as in London. It is a disgrace to us, as the leading tropical power, that we close our eyes to our duties and interests, and that we make so little use of the unsurpassed opportunities lying at our very door." *Clinical Sketches.*

We are glad to see that, as a result of this address, St. George's Hospital has created "a chair," to which Dr. Manson has been elected, for the purpose of such special teaching.

"A French contemporary, the *Médecine Moderne*, reports a case in which a practitioner saved the life of a child aged ten years by giving subcutaneous injections of a strong decoction of coffee berries, prepared in the usual way, but very much stronger. He injected thirty drops of the very black coffee every ten minutes, and after the fourth injection the breathing became freer and the pulse more regular, and in six hours the child was out of danger, although moribund at the first injection . . . The hypodermic injection of caffeine is certainly indicated in all cases of opium poisoning."—The *Medical Magazine*.

[Doubtless but strychnine is far better, for it is a respiratory stimulant and a heart tonic of the first order. Opium kills chiefly through paralysis of the respiratory centre in the medulla, and our chief aim should be to stimulate that; in this respect the action of caffeine is slight as compared with strychnine.—Ed. *Medical Missionary Journal*].

Christianity is here to do something. Christianity is not an idea, it is not a picture, it is not a philosophy; it is a device for the accomplishment of palpable effects. It is not thought, it is not argumentation, it is not brain, although like all passion, properly amenable to the checks and restraints of brain. But it begins before brain. It is an impulse that brain does not produce, however much it may properly have to do in the way of regulating it. Christianity was first of all the divine passion of Him who so loved the world that He gave His only begotten Son, that whosoever believeth in Him should not perish, but have everlasting life. . . . No man has moved the world like Jesus Christ, because no man besides Him has embodied so wide, so profound and so divine an enthusiasm. People are passionate in everything but their passion for men; and that is the one Christian passion; it is the

one passion that makes a man Christian in heart, Christian in purpose and Christian in his effects. I say it to them that are Christians that if there were no more heat in business than there is in the Church half of the institutions of this town would be in the hands of a receiver inside of a week. Brain has been tremendously overworked as a means of evangelization. People have got to be loved into the kingdom of Heaven, not thought into it. It is the heart that requires to be touched; heart is the only thing that can touch heart. An affection costs more than idea. Our loves we coin from our own hearts; our ideas we make up as we go along. Hence it comes from this and other causes that Christianity easily degenerates from a condition of fervid love to men into a condition of highly intellectual interest in problems of Christian truth.—C. H. PARKHURST, D.D.

The success in resisting temptation, the habitual victory over sin which it is the joy of the fully consecrated Christian to know is, I think, due to the new way in which he meets temptation. There are two methods of meeting temptation which it is worth while contrasting. When temptation meets me I may brace my whole nature to resist it, opposing it with all the energy of my will and crying to God for help. I may attack the temptation directly, facing it with the determination not to be overcome; and to strengthen my determination I may summon to my aid all right motives and betake myself to prayer and the reading of God's Word. Or, on the other hand, when temptation approaches I may betake myself instantly to fellowship with the Lord Jesus . . . Instead of directing the energies of my soul toward the temptation in resistance I direct them towards the Lord Jesus in faith. In both cases there is effort; there is intense activity of soul, but in the one case the effort is to overcome the

temptation, in the other the effort is to maintain communion with the Lord. The first of these is what might be called the method moral resolve . . . Its characteristic is stress of soul . . . The other is what might be called the method of Spiritual Reliance. Its characteristic is rest of soul. . . I need scarcely add that it is this second method which it is the blessed privilege of the surrendered soul habitually to follow.—G. H. C. MACGREGOR, D.D.

One of the grand traits of the nineteenth century appliances is the shutting out of the needless things and the paring off of all useless material. The latest illustration is the military medical chest devised by Dr. N. Senn, the distinguished surgeon of Chicago. It pleases our fancy to imagine that he took a hint from a Russian chest displayed at the World's Fair; but wherever he got the ideas he has produced a marvel of compactness, durability and lightness. The outfit now in use in the United States is contained in two brass-bound chests, each 15 × 15 × 23 inches; the pair weighing 185 pounds. Dr. Senn has but one chest 12½ × 12½ × 19, and weighing seventy-six pounds, made, water-proof and pounding-proof, of aluminium, leatherine, etc., and containing fifty-two instruments and appliances in one surgical case of German-silver, weighing nineteen ounces; also thirty-six other surgical instruments, twenty-two dressings, plasters, etc.; many yards of bandaging, etc.; forty-two articles "miscellaneous," such as candles, goggles, lantern, pocket-stove, etc.; twenty-five kinds of medicines that are put into aluminium bottles, when they can be safely so used, and over fifty kinds of medicine in tablets. Stout iron handles fit it for transportation, and the Geneva cross on its front proclaims its merciful mission. It holds no less than 227 articles, among them "Carpenter's Medicine," to save a "frustrated" surgeon from mistakes.—*The Independent*.

"THE FEET OF JUDAS."

"Christ washed the feet of Judas !
Yet all his lurking sin was bare to him ;
His bargain with the priest ; and, more
than this,
In Olivet beneath the moonlight dim
Afore was known and felt his treacherous
kiss.

"Christ washed the feet of Judas !
And thus a girded servant, self-abased,
Taught that no wrong this side the gate
of Heaven
Was e'er too great to wholly be effaced,
And, tho unasked, in spirit be forgiven.

"And so if we have ever felt the wrong
Of trampled rights, of caste, it matters
not.
Whate'er the soul has felt or suffered long,
O heart, this one thing should not be
forgot :
Christ washed the feet of Judas !"

G. M. MCCLELLAN.

The outside world knows but little and cares still less about the inward emotions of us who call ourselves Christians. Vitally important as a sound creed is to us the world cares very little about our creeds and our confessions of faith. But it looks, with the sharp eyes of a lynx, at our daily lives. People outside of the Church hear us talk about our faith in Jesus Christ; they hear us sing about it very sweetly and pray about it very devoutly; but their common sense echoes what the Bible declares that "*faith without works is dead.*" From them, too, comes the protest against all attempts to divorce faith from works; for to the whole outside world it is a matter of vital importance that Christianity should not become bankrupt, or Christians become pious shams. It is clean godly living that the world looks for; it is more clean, Christly living that this sinful world is suffering for the want of; it is only such living that can bring happy dying when the Master "calls the roll."—THEODORE L. CUYLER.

A THOUGHT FOR THOSE WHOSE WORK IS HARD.

Some of the generals who fought under Washington in the Revolutionary War acquired great fame, and their names live in history. What American is there but can tell of Putnam, and Lafayette, and "Mad Anthony" Wayne, and "Legion Harry" Lee, and many others? But there was one general of whom little was said then, and few know anything now, who rendered perhaps as good service as any of these, and for whom his commander-in-chief had a very special and loving regard—Benjamin Lincoln. General Lincoln could always be counted on to do the very best that man could do in any emergency, whether it won him fame or no.

Washington had at times to give orders, the reason for which no one knew but himself. Perhaps an attack had to be made *here* to prevent the enemy sending re-inforcements *there* where Washington meant to make the real attack, or a bridge was to be held or destroyed at any cost, to allow outnumbered American forces to take a new position.

Benjamin Lincoln was so good a soldier and so true a patriot that he was willing to do a difficult work well, even though others gained in the discharge of easier tasks far more credit than he; but once, when an important campaign ended in a great victory, Washington addressed him in words like these: "General Lincoln, this success is due, under God, to you."

Bishop, where work seems to you to be carried on under almost insuperable difficulties; parish priest, or lonely missionary, with much to discourage; man or woman, boy or girl, trying to be Christ's faithful soldiers but finding the conflict, oh, so hard—do not be cast down! May it not be that, as Washington gave Benjamin Lincoln the hard and unattractive tasks because he had such perfect confidence

in him, God is giving you work you would not choose, because He knows that, trusting in His grace and help, you will bravely discharge it?

He trusts *you*, trust *Him* in return. Perhaps you may learn some day that the plain, disheartening tasks you had to perform did far more to promote God's glory and man's good than the more showy work which seemed to you preferable. He trusts *you*, trust *Him* in return. Heartily and cheerily, in His strength, do the work He has appointed for you, and it will not be long before you hear the glad plaudit: "Well done, good and faithful servant; thou hast been faithful over a few things, I will make thee ruler over many things; enter thou into the joy of thy Lord."—Bishop HALE in *The Spirit of Missions*.

"What hinders the immediate effort to plant the Gospel in every nation and island and home in all the earth within the next decade? Nothing but the faltering zeal and purpose of the mass of Christian believers now on the earth. That precisely is the critical question. Are we, the Christians of to-day, awake to these facts and responsive to the claims of this glorious work? Do we understand that this vast responsibility rests upon us; that it is possible now, as never before in the world's history, to preach the Gospel to all the nations? And do we mean, God helping, that the work shall be done ere we die? This is the deep significance of the hour to this generation."—JUDSON SMITH, D.D.

"Go forth, then, ye missionaries, in your Master's name; go forth into all the world, and, after studying all its false religions and philosophies, go forth and fearlessly proclaim to suffering humanity the plain, the unchangeable, the eternal facts of the Gospel—nay, I might almost say the stubborn, the unyielding, the inexorable facts of the Gospel."—M. M. WILLIAMS.

"There is but one test with God of orthodoxy, of catholicity, of membership of the kingdom of heaven. It is given in the last utterance of Revelation by the beloved disciple. It sweeps away with one breath nine-tenths of the fiction and falsities of artificial orthodoxy and fanatical religionism. It is: "He that *doeth* righteousness is born of God."—Arch-deacon FARRAR.

HOLY DOGGEDNESS.

More than any other one thing the measure of a man's power, the criterion of the amount of effect that he will be likely to produce in the world, will be not the brilliancy or the impetuosity with which he takes hold, but the holy doggedness with which he hangs to after he has taken hold. Every once in a while I am told that such and such a brilliant young man or young woman has just come into our congregation, and that he or she will be likely to prove a great acquisition. I confess that it is a bait at which I nibble less than I used to do. If I want a light to read by I had rather have a good long tallow-dip than a streak of lightning. A very small river will carry a great deal of water to the sea if it keeps running.

Patient continuance in well-doing is the art of great living; it makes the man himself great; it ennobles the world he lives in; it leaves behind a bequest that can never be diverted to unintended purposes, and it puts a man distinctly upon the track of having fulfilled to him the promised award of the Lord: "Well done, good and faithful servant, thou hast been faithful over a few things, I will make thee ruler over many things; enter thou into the joy of thy Lord."—CHARLES H. PARKHURST, D.D.

When Essex County, N. Y., was a wilderness, an energetic and industrious settler had made a clearing and was

possessed of a comfortable house, over the kitchen fire-place of which always hung a loaded gun, for the family were mainly dependent for meat on such game as its head could shoot. In felling a tree, by a premature landing of it, his knee was caught and severely injured. He understood that it needed expert care, not to be had short of Albany; but a messenger was sent, and the ablest surgeon there came and did what was necessary; and as he did not expect to come again he left very minute and explicit directions as to care to be given; the limb was to be elevated, the man on no account to put his foot to the floor till the union of the ligaments was complete, and he painted the consequences of too early use of the limb in such lurid colours that the patient rigidly rested till thirteen months after the accident, being helped in his dressing and undressing, for he put an iron will into the thoroughness of the resting. But just at this time a fine deer bounded into the clearing before the window at which he was seated. Instinct got the better of prudence, he bounded up, seized the gun and shot the deer. Then turning to his wife he said: "I guess I'll go to work." He did.—*The Independent*.

... Who doubts that, times without number, particular portions of Scripture find their way to the human soul as if embassies from on high, each with its own commission of comfort, of guidance, or of warning? What crisis, what trouble, what perplexity of life has failed or can fail to draw from this inexhaustible treasure-house its proper supply? What profession, what position is not daily and hourly enriched by these words which repetition never weakens, which carry with them now, as in the days of their first utterance, the freshness of youth and immortality? When the solitary student opens all his heart to drink them in they will reward his toil. And in forms yet more hidden and withdrawn,

in the retirement of the chamber, in the stillness of the night season, upon the bed of sickness, and in the face of death, the Bible will be there, its several words how often winged with their several and special messages, to heal and to soothe, to uplift and uphold, to invigorate and stir. Nay, more, perhaps, than this: amid the crowds of the court, or the forum, or the street, or the market place, where every thought of every soul seems to be set upon the excitements of ambition, or of business, or of pleasure, there too, even there, the still, small voice of the Holy Bible will be heard, and the soul, aided by some blessed word, may find wings like a dove, may flee away and be at rest.—
W. E. GLADSTONE.

We are glad to welcome Dr. Rankine, who has come out in connexion with the Church of Scotland Mission, Ichang, to take up the work Dr. Pirie was so suddenly called upon to lay down a little more than two years ago.

Dr. Rankine has had a distinguished career at the Edinburgh university, taking his M. A. degree with honours in natural science, and his M.B. and C.M. with first class honours. We wish him all success in studying Chinese and many years of useful work among the Ichang people.

We are glad to hear that Dr. and Mrs. Dr. Gillison, of the L. M. S., Hankow, are deriving much benefit from their visit to England.

Dr. Turner has been appointed to Hankow (L. M. S.), and will carry on the work until Dr. Gillison returns. [Since this was written Dr. Gillison has returned.]

It will be a great grief to many, beside ourselves, to see the announcement in this Journal of the death of Mrs. Parrott. A rare act of brotherly kindness to a brother missionary who had to leave his work brought us into close contact with Dr. and Mrs. Parrott in 1893, and whilst neighbours and fellow-workers in the same mission for a time we learnt to know them well. Dr. Parrott was away when Mrs. Parrott was taken ill, and only managed, by travelling night and day, to reach his wife shortly before her death. She seems to have died of sprue. In a private note to ourselves the Dr. says: "Nothing would stay the course of the disease. The dyspepsia was distressing. The last few days there was constant nausea and occasional vomiting." We sorrow not as those without hope, but we sorrow none the less truly, and the Master is not grieved at our sorrow.

"O God, to whom the faithful dead
Still live, united to their Head,
Their Lord and ours the same;
For all thy saints, to memory dear,
Departed in thy faith and fear,
We bless thy holy name.

As we are correcting these proofs there comes the news of the death of Mrs. Douthwaite, of Chefoo, and of the Rev. David Hill, of Hankow. "They are gathering homeward—one by one."

BIRTHS.

At Sam-kong, Lien-chau district, Kwong-tung province, on Dec. 2nd, the wife of E. C. MACHLE, M.D., American Presbyterian Mission, of a son and daughter.

At Ch'ao-chow-fu, on the 4th of February, the wife of Dr. P. B. COUSLAND, E. P. Mission, of a daughter.

At Wei-hien, 17th April, the wife of Dr. W. R. FARIES, American Presbyterian Mission, of a son.

At Wuhu, on the 20th April, the wife of Dr. G. A. STUART, M. E. Mission, of a daughter.

MARRIAGES.

At Chefoo, China, 2nd April, Rev. RUFUS HOWARD BENT, to Miss SARAH AYERS POINDEXTER, M.D., both of American Presbyterian Mission.

At Soochow, on 21st April, by Rev. D. L. Anderson, Dr. FEARN, to Miss ANNE WALTER, M.D., both of American Southern Methodist Episcopal Mission.

At Canton, on 22nd April, by Rev. H. V. Noyes. Rev. J. J. BOGGS, M.A., Professor in Canton Christian College, to Miss RUTH C. BLISS, M.D., of Medical Missionary Society's Hospital, Canton.

DEATH.

On December 27th, 1895, at Lao-ho-k'ou, vid Hankow, ANNIE, the beloved wife of

Albert George Parrott, M.R.C.S. (Eng.), L.R.C.P. (Lon.), aged forty years.

ARRIVALS.

At Shanghai, 29th January, Dr. SAVIN, for C. I. M., from England.

At Shanghai, 15th February, Dr. and Mrs. J. R. WATSON and three children (returned), for English Baptist Mission, Shantung.

At Shanghai, 25th March, Dr. and Mrs. D. D. MUIR, for Scotch Presbyterian Mission, Manchuria.

At Shanghai, 8th April, Dr. J. M. GRIEVE and wife, Dr. KATE PATON, Dr. HORNER, for Scotch Presbyterian Mission, Manchuria; also Dr. and Mrs. PARRY and family (returned), for C. I. M.

At Shanghai, 19th May, Dr. and Mrs. WESTWATER and family (returned), for Scotch Presbyterian Mission, Manchuria.

DEPARTURES.

From Shanghai, 29th January, Dr. E. R. JELLISON, of M. E. Mission, for Germany.

From Shanghai, 16th May, Dr. and Mrs. COX, for India.

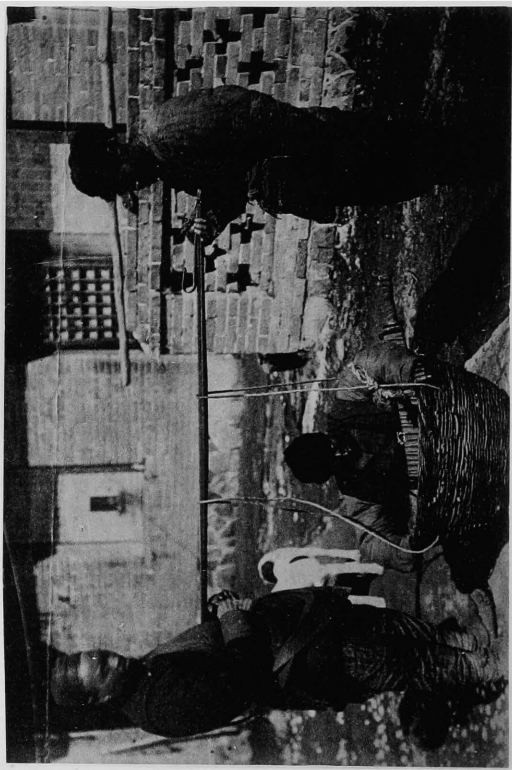
From Shanghai, 23rd May, Dr. LUCY GAYNOR, Friends' Mission, for U. S. A.

Official Notices.

The following have been duly elected members of the Association:—F. G. Bergin, M.B., Lond.; L.R.C.P., Lond.; M.R.C.S., Eng., Unconnected; William L. Ludlow, M.D., Univ. of New York, U. S. A., American Protestant Episcopal Mission; E. D. Vanderburgh, M.D., Univ. of New York, U. S. A., American Presbyterian Mission.

Dr. R. C. Beebe has been elected Secretary of the Association vice Dr. J. C. Thomson resigned.

The Editor having received but one paper in answer to his appeal for a series of papers on the Medical Missionary Hospitals of China the project has to be abandoned.



Wounded Soldier being conveyed to Hospital.

The China Medical Missionary Journal.

VOL. X.

SEPTEMBER, 1896.

No. 3.

Original Communications.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editor on the first day of the month preceding that in which they are expected to appear. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written* order for the same accompany the paper.]

NOTES OF RED CROSS HOSPITAL WORK IN NEWCHWANG.

By DUGALD CHRISTIE.

Soon after the war between China and Japan began it became evident to Europeans, in various northern ports of China, that some steps should be taken to relieve the inevitable sufferings of the Chinese wounded. I can only speak from personal experience of what was done in Newchwang and in Moukden. In the latter city a large mission hospital was already in operation, but in Newchwang, which was much nearer to the scene of conflict, we had to make use of such premises as could be rented, native inns being the most suitable for our purpose. These houses were dark and dilapidated, with crevices in their mud walls through which wind and snow found a ready entrance. Indeed, their sanitary condition could not have been worse. Owing to the exigencies of war there were eight medical men in the port that winter, which was fortunate, as during December and January 236 and in February over 700 cases were admitted to the Red Cross Hospital. In all over a thousand wounded were treated. Among these were many cases of interest, some of which are recorded in the following notes. The success of the work is largely due to the efforts of Dr. Daly, the resident medical officer of Newchwang.

Brain.—Five cases were trephined for fracture of the skull, three of whom recovered. In one of these the bullet only grazed the surface of the bone, causing but slight injury to the external table, but soon after admission symptoms of compression developed, and on removing a piece of bone it was found that the inner table was fractured. There was a good deal of extravasation and splinters of the bone caused some laceration of brain structure. The patient made a good recovery.

In one of the fatal cases the patient was deeply comatose when admitted, and examination revealed fracture of the right parietal bone with extensive fissuring. On trephining a large clot was found beneath the dura mater and on its removal severe hæmorrhage took place from the anterior branch of the middle meningeal artery. More bone had to be removed before the bleeding points could be secured; both ends of the vessel were ligatured and antiseptic dressings were carefully applied, but the patient did not recover consciousness; he died about eight hours after the operation. In the fifth case the operation was quite satisfactory, but the patient ultimately died with symptoms of localised suppuration.

Wounds of the Face and Neck.—A good many were treated for wounds of these parts, some of whom made remarkable recoveries. In one case (Figs. 1 and 2) the bullet entered at the external angle of the right supra orbital arch, passed downwards, inwards and backwards, emerging half an inch behind the left angle of the lower jaw. It again entered a little behind the middle of the clavicle and passed out through the left posterior axillary fold. The right eye was completely destroyed, but otherwise the patient made a good recovery.

Another case (Figs. 3 and 4) had the wound of entrance over the right condyloid process of the inferior maxillary bone. The bullet passed in almost a direct line to the opposite side, emerging at a point about half an inch higher. The bone in both sides was splintered and the soft tissues were seriously damaged. Pieces of bone had to be removed and for a considerable time the patient was fed through a tube passed into the stomach. He ultimately recovered with good movement of the lower jaw.

In a third case (Fig. 5) the bullet entered over the right malar bone and, passing backwards, emerged through the mastoid portion of the temporal, one inch behind the right auricle. The larger blood vessels escaped and there was but little hæmorrhage. The bones were only slightly splintered and the wound healed rapidly.

Lungs.—Of thirty cases treated for penetrating wound of the lung four died. In the majority the ribs were not injured and the wounds, being clean, healed rapidly; but in all the fatal cases infective agents, such as pieces of wadded clothing, were carried by the bullet, causing inflammation to spread from the track of the wound and leading to septic suppuration in the lungs and pleuræ. In one case there was considerable effusion into the pleural cavity and the removal of a piece of rib gave free exit to a large quantity of thin serous pus mixed with extravasated blood. The following day the pleuritis assumed a septic form, accompanied by hectic fever, and the patient gradually sank.

There was only one instance (Fig. 6) of injury of both lungs. The wound of entrance was situated half an inch to the inside of the left nipple,

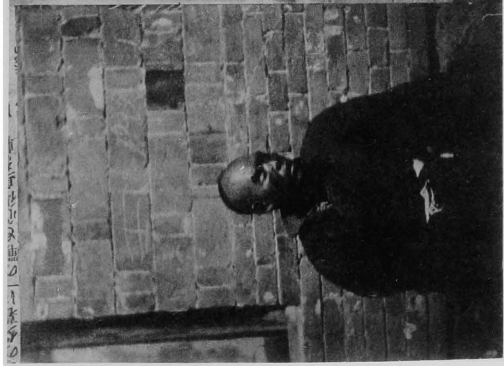


Fig. 1. Entrance Wound.

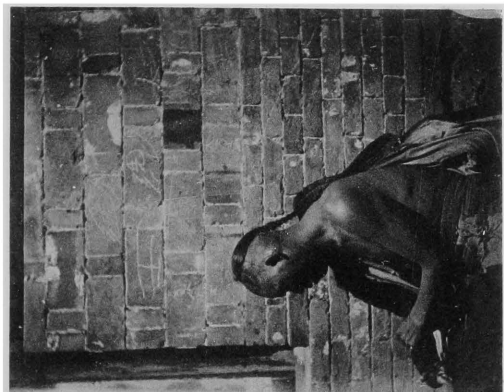


Fig. 2. Exit Wounds.

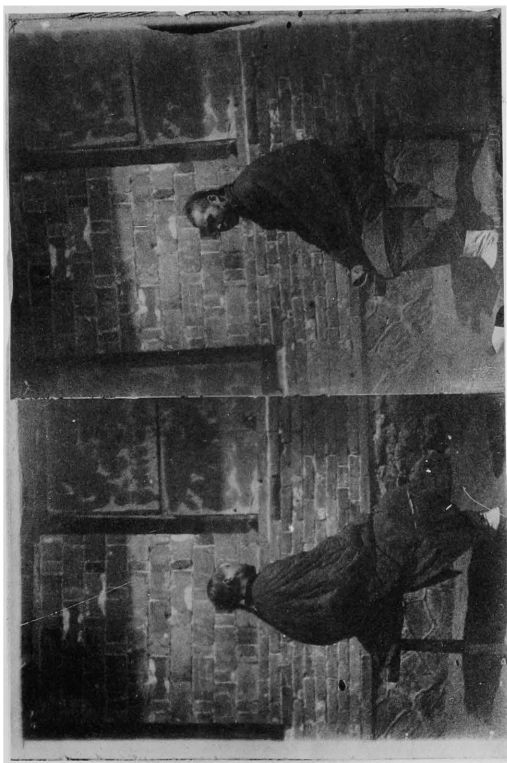
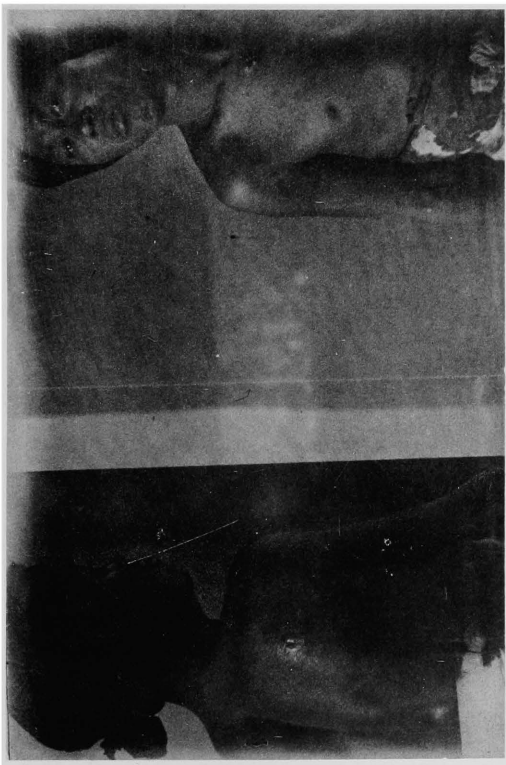


Fig. 3. Entrance Wound.

Fig. 4. Wound of Exit.



Case of penetrating Wound of Lung.

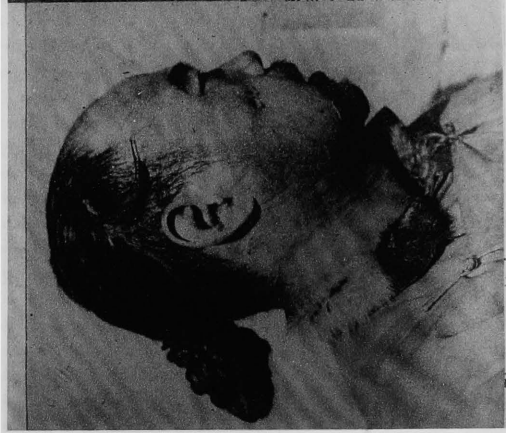


Fig. 5.



Fig. 6.

and that of exit one inch above the right nipple. When admitted the patient was in a very weak condition, with severe hæmoptysis and great difficulty in breathing. The lower end of the sternum was fractured and splinters from its posterior surface were driven into the lung tissue. These were all carefully removed and, although convalescence was slow, the patient made a good recovery.

Abdomen.—There were seven penetrating wounds of the abdomen, five of which proved fatal, from shock or cold, within a few hours of admission. This is not to be wondered at, for the temperature on the battle-field was ten degrees below zero. A case of wound of the colon recovered without operative interference. Several were treated for wounds of the abdominal wall, all of whom rapidly recovered.

Upper Extremity.—Wounds of this region were very numerous and, although many of them involved joints with fractures of bones, the mortality was not more than two per cent. Two died after excision of the shoulder joint for fracture of the neck of the humerus and splintering of the head of the scapula. In one case resection of the shaft of the humerus was performed for extensive fracture. Three and a half inches were removed and the ends of the bone were wired, but the patient, who was very weak, died ultimately of pneumonia. In another case three quarters of the shaft of the ulna was removed for severe shell-wound and, although the soft tissues were seriously lacerated, the wound healed rapidly, leaving a useful arm.

In only one case was amputation performed at the shoulder joint. The patient did not come under observation until several days after the injury, having in the meantime been treated after native methods, which rendered his condition much worse. The humerus was shattered at its upper third and violent phlegmonous inflammation affected the whole limb from the wrist to the shoulder. The patient would not submit to amputation till his condition was almost hopeless and he died the following day. The forearm had to be amputated in four cases, all of whom made satisfactory recoveries.

Lower Extremity.—The most serious wounds we had to deal with were those of the leg and thigh, involving the joints, and our difficulties were greatly increased by the reluctance of the Chinaman to part with a limb as long as any hope of life remained. Not a few of the patients, when the only means of saving life was laid before them, calmly but firmly decided to die. Even those whose lives were saved by amputation did not submit to the operation until symptoms of septic absorption were beginning to develop.

The knee was the articulation most frequently implicated and, in the great majority of cases, the wounds being infected suppuration had set in before admission. Conservative methods of treatment after septic changes had taken place in the knee joint we found very unsatisfactory. Efficient drainage by free incisions, the removal of all foreign bodies and loose frag-

ments of oone, and thorough antiseptic washing were carefully attended to, but the end in almost every instance was death, caused by absorption of the products of putrefaction.* Two cases, however, recovered without operative interference, with fairly movable joints.

Fourteen amputations were performed at the lower third or middle of the thigh. In all of these cases the knee joint was completely disorganized, with profuse septic discharge, and in most the pus had burrowed underneath the muscles of the thigh. Eight recovered. There were four cases of amputation below the knee and four at the ankle (Syme), all of whom did well.

Missiles.—The rifle which the Japanese used in Manchuria was a single-loader of 11 mm. calibre (.45 in). The bullet is of soft lead, weighing 420 grs. Forty entire bullets and fragments of eight were extracted, nearly all of which carried pieces of clothing. Many of them were flattened and distorted by contact with bone.

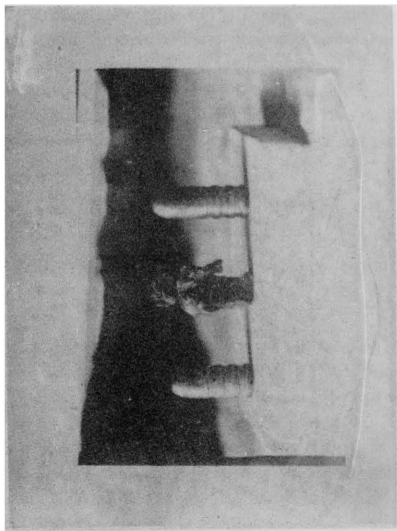
In about fifty of the cases treated in Newchwang the wounds were caused by shrapnel balls, of which eight were recovered, one of them being split in two on striking the crest of the tibia. Three pieces of shells and a piece of cast iron were also extracted from various parts of the body. It was observed that shrapnel wounds were very seldom injected. One man received seven of them. The right femur and left tibia were fractured; the lower end of the left humerus was also broken, with fissures extending to the joint. A fourth bullet had passed through the left hand, and a fifth had scored the frontal bone. The other two were flesh wounds of the left leg, which healed rapidly. The patient, though a heavy opium-smoker, made a satisfactory recovery.

It is to be regretted that this campaign did not afford much opportunity for observing the character of the wounds produced by the modern weapon of small calibre. At the beginning of the war the Japanese had only a limited supply of their new Murata rifle, which was used by the army operating in Corea. In the Moukden mission hospital sixteen cases came under my observation and treatment, wounded by this small bullet at the battle of Ping-yang. An article comparing these wounds with those caused by the large bullet has already been published in the *British Medical Journal* of April 13th, 1895.

Later on, after the Japanese had taken possession of Newchwang, I visited their field hospital there, and saw a few cases wounded by the Mannlicker rifle, which was used by the Chinese. Its calibre is 8 mm. (.315 in.); the bullet, which has a nickel-plated steel jacket, is 1.25 in. long, .322 in. in diameter, 244 grs. in weight, and the initial velocity is 2,034 feet per second.

In one case the bullet entered at the middle of the calf and, passing through the knee joint, emerged at the superior border of the patella. The

[Continuous antiseptic irrigation, in similar cases, has proved very successful in the London hospitals.—Ed.]



Illustrating Distortion of Bullet after penetrating Bone.

patient recovered in ten days with a movable joint. Another case, struck at 500 metres distance, showed perforation of the femur with fracture. In two cases the bullets had lodged. One had tumbled and struck the shaft of a long bone, causing a deep dent and splitting its own jacket. The Japanese surgeon in charge said he had noted "explosive effects" in seventeen cases, but I had no opportunity of examining them, nor of ascertaining what proportion these bore to the whole number treated.

The good results of this work cannot be over-estimated. An impression was made on the minds of the soldiers which is not likely to pass away. Of direct Christian teaching there was necessarily less than in purely mission hospitals; but most of the natives employed as assistants were Christians and were always ready to witness to their faith. It was very remarkable to see the number of convalescent patients who voluntarily attended the Sunday services in our native Church. Some months later three of these men were baptized in Newchwang; hundreds have taken home at least some knowledge of the religion of Christ; hundreds more have now a friendly and grateful respect for the foreigner whom they formerly despised and hated.



HISTORY OF THE MEDICAL MISSIONARY SOCIETY'S HOSPITAL.

(Continued.)

When Dr. Parker was appointed United States Minister to China the hospital was suspended for a short period until, in 1855, it was placed under the care of Dr. J. G. Kerr, of the Presbyterian Mission, who had arrived in Canton the previous year. One of Dr. Parker's assistants, Dr. Kwan To, was retained and continued to be associated with Dr. Kerr for a number of years. Religious services were conducted every Monday by Dr. S. Wells Williams, until the outbreak of hostilities in 1856 closed the hospital.

During the war the building in San-tau-láu street, which had been given free of rent, was destroyed; in 1858 the hospital was re-opened by Dr. Kerr in a Chinese building in Tsang-sha street in the southern suburbs, where it remained during a period of eight years. At that time the Rev. C. F. Preston had charge of the religious services and retained his connexion with the hospital in this capacity until his death in 1877.

In the progress of time the accommodation of the hospital became too limited for the increasing number of patients, so in 1865 the present site was purchased and the next year the hospital was removed to the new location. The first building, erected in 1865, contained eight wards, two of which were temporarily occupied as physician's residence, and one

as chapel. As soon the funds admitted other buildings were erected but no debt was ever contracted.

The hospital lot is 500 feet deep by 82 feet wide and there are now seven principal buildings; these consist of residences for physicians, next to which is the building for women, which contains also offices and a room for the class. In the third building are reception, prescribing, drug and instrument rooms and, on the second floor, a chapel, which will seat 500. The fourth is a two-story building with eight large wards for male patients. The fifth and sixth buildings are divided into eighteen smaller rooms for private patients, who pay rent, or they are used for any class of patients which require to be kept separate from the others. The seventh building is occupied by helpers and students.

The ground plan shows the arrangement of the buildings which are separate from each other as far as space would allow.

In January, 1885, Mary W. Niles, M.D., was appointed physician to the hospital in charge of the wards for women and of the practice in families, which has become a very important part of the work since her connexion with the hospital. In January, 1895, Dr. R. Bliss was appointed to be associated with Dr. Niles in the women's department.

The Kam-li-fau hospital of the London Mission was an independent hospital, located in the western suburbs, but was finally amalgamated with the Medical Missionary Society's hospital. It was established by Dr. Benjamin Hobson in 1848 and conducted with great success by him until the outbreak of the war in 1856. Much attention was given to evangelistic work, and Leung A-fah, the first Chinese preacher, was in charge of the religious services until his death.

After the war in 1858 the Kam-li-fau hospital was re-opened by Dr. Wang Fung, who continued in charge until November, 1860. It was then in the hands successively of Drs. Happer, Carmichael and Dods; in 1865 it was transferred to the Medical Missionary Society and came under charge of Dr. Kerr. It was kept up until 1870, when the sale of the building rendered it necessary to close it. Since that time the Society's hospital has been the only one in Canton.

The translation of medical books into Chinese was begun by Dr. Hobson and the first of his series of five books was published while he was in charge of the Kam-li-fau hospital. These books were a clear and concise outline of Western practice of medicine and surgery, were widely circulated and were re-published in Japan; doubtless they were one of the first influences that gave an impulse in that land in favour of western science and medicine. These books are still in demand in China. The work of translation was continued by Dr. Kerr and the publication of the medical books translated under the auspices of the Medical Missionary Society is an important part of the

work carried on in connexion with the hospital. Dr. Wan Tün-mo, an educated physician and English scholar, continues the translation of medical books under the auspices of the Society.

The training of medical students was an object that has been steadily kept in view. Dr. Parker had under his instruction two young men, one of whom, Dr. Kwan To, served for many years as medical assistant in the hospital and was the first practitioner of western medicine and surgery among his countrymen. He acquired a lucrative practice and, on one occasion, was sent for by the Viceroy of Sz-chuen to operate on his eyes for cataract.

When the hospital was re-opened after the war of 1856-1858 the number of students gradually increased and not less than 150 young men have been received as students. The class now consists of thirty members, seven of whom are young women, with the prospect that the number seeking a medical education will increase rapidly in the future.

Female students were received as early as 1879 and the schools for women, in connexion with the various missions, furnish students well prepared for medical studies.

During the absence of Dr. Kerr on several occasions the hospital has been in charge of other physicians.

In 1868 Dr. Wang Fung had charge for nine months.

In 1876-78 Dr. F. Carrow had charge, but in October 1878, left it to take private practice, so that until Dr. Kerr's return (January, 1879) it was practically closed.

In 1882-84 Rev. J. C. Thomson conducted the hospital and, during the disturbances of the French war, showed such courage and tact in meeting a mob that he was instrumental in saving the hospital and mission buildings from destruction.

Dr. J. M. Swan was appointed medical assistant in February 1888, and during 1893-94 was in charge of the male department. Dr. D. Beattie was appointed his substitute in 1894, but soon after Dr. Kerr's return sickness in his family required him to return home.

The evangelistic work has been regarded as the chief object for which the hospital was established. When first opened in 1835 public preaching had not been attempted in any chapel; missionary work was then restricted to conversation with private individuals, the instruction of servants and the distribution of the few books then prepared. During a period of two years before the war the residence of foreigners in Canton was under many restrictions, even Dr. Parker having to leave his hospital for a time in 1838. Block-cutters of Christian books had been arrested and the printing and distribution of books was suspended. After the war the hospital was re opened in 1842, and it is stated (see Newcomb's *Cyclopædia of Missions*, p. 272) that there were such disturbances in Canton that trade as well as missionary work was

brought to a standstill. After the war, "on the return of missionaries to Canton (in 1842), a strong prejudice against foreign teachers was found to exist, but in the hospital there was an encouraging field of labor, where the word might be sometimes addressed to 100 souls."* This seems to have been the first public preaching and the statement that Dr. Parker opened China to the Gospel at the point of the lancet is literally true as far as public preaching is concerned.

The public services on prescribing and Sabbath days have been regularly kept up. Since the war of 1856 the Rev. C. F. Preston and the Rev. B. C. Henry, assisted by native helpers, have had charge of these services. Within the last two decades our medical helpers and many of those doing the common work of the hospital have been Christians.

In 1886 hospital schools were established for teaching attendants of patients and such patients as could leave the wards. These schools have been a very efficient aid in the instruction of patients and hundreds have committed to memory simple tracts or portions of Scripture, carrying home with them the essential truths of Christianity.

The hospital has, during the entire period of its existence, been supported by funds collected on the ground; it has never been a tax on the mission Board at home, except for the salaries of the physicians who were in charge. For a number of years, in the beginning, the funds were contributed by resident merchants of all nationalities. Soon the building owned by one of the wealthy hong merchants was given free of rent. After the hospital became better known contributions were given by Chinese officials and merchants. Patients make donations and the income from the rent of private rooms now forms quite an item in our assets. At the present time the larger part of the funds comes in one way or another from the Chinese.

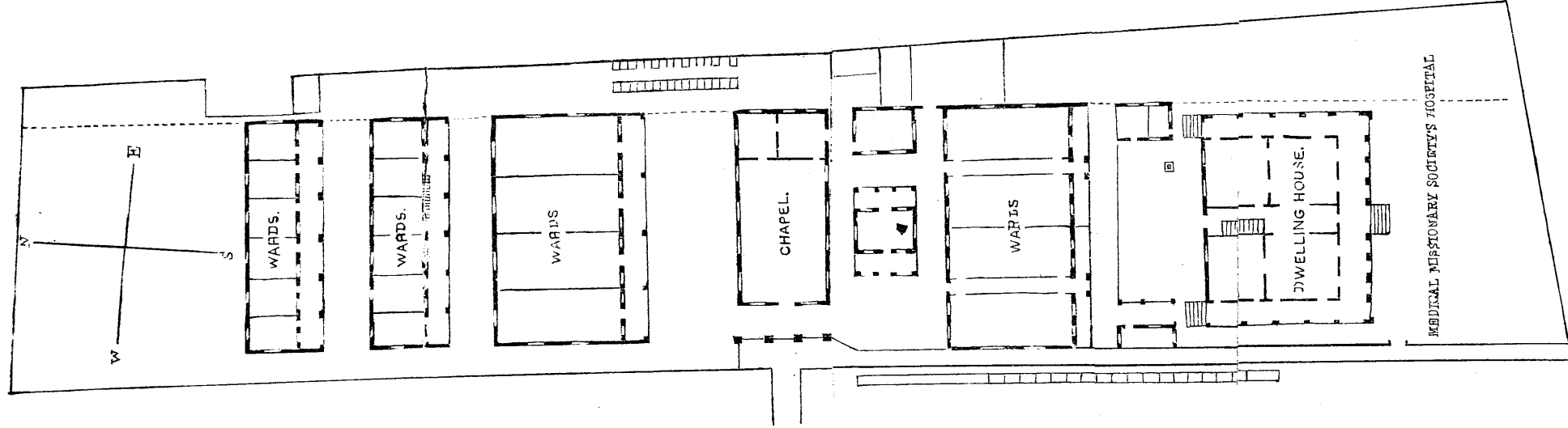
* Newcomb's Cyclopædia, p. 272.

EXCISION OF THE HEAD OF THE HUMERUS FOR OLD DISLOCATION OF THE SHOULDER.

By H. W. BOONE, M.D.,

Surgeon to St. Luke's Hospital, Shanghai, China.

19th June 1888.—Fong Ming-dah, male, 22, wheelbarrow-man, sustained a luxation of the shoulder, sub-coracoid, 40 days ago. The elbow is directed backward and away from the side. It is prominent beneath the coracoid and he has severe pain; cannot move his arm at all and is quite incapacitated from earning his living. A Dr. Schofield, from England, was visiting the hospital and he kindly assisted me. Chloroform was given and reduction



attempted by the method of Kocher; this failed traction with the knee in the axilla was tried, but Dr. Schofield, a very powerful man, could not move it in the least. I then tried extension with the heel in the axilla, and finally extension of the limb; the scapula being pressed downward by an assistant. I rotated the head of the bone again to break up any adhesions, and then tried again. All efforts proved quite useless, and I was struck by the extreme rigidity of the parts which would not yield to any effort. The patient was sent to bed and allowed to remain there until the third of July, when my colleagues, Dr. R. A. Jamieson and Dr. Duncan Reid, were invited to examine the case with me. We gave the man chloroform and made prolonged and repeated efforts to reduce the dislocation. We carefully and methodically tried one method after another, but after a long trial found that we had not moved the head of the bone in the least degree. It was the unanimous opinion of all present that the neck of the bone must be grasped in a rent in the capsule. The patient was sent to bed and kept quiet for a few days.

Jul 7th.—Drs. Jamieson and Reid assisting. Chloroform was given to the man, and with the patient lying on his back and the shoulder raised on a cushion I made an incision through the deltoid muscle to the capsule and periosteum, drew aside the margins of the wound with retractors and opened into the joint. There were firm adhesions, and the operation was more than ordinarily difficult; the head of the bone remaining fixed, even when freed from the ligaments and muscular insertions. The head of the bone was thrust out of the wound and removed at the *anatomical neck* by a narrow back saw passed behind it. There was now no difficulty in getting the bone in place. A drainage tube was inserted, iodoform dressings applied and the arm retained upon a triangular cushion. The wound was sutured with fine catgut.

July 9th.—Slight stain on dressing, pink serum. Redressed. His recovery was uninterrupted; scarcely any rise of temperature.

July 17th.—Remove second dressing, wound healed, except a small track of the drain tube.

July 23rd.—Remove third dressing, wound is entirely healed up. Passive motion.

July 17th.—He now has free motion of the shoulder in every direction. Can put his hand on his head. When this man was admitted just four weeks ago he could not move his arm in the least, and he was suffering pain from nerve pressure. He now earns his living, and has no difficulty whatsoever with his arm. Some two or three months after this man had left the hospital the admirable article by Sir J. Lister, giving his results in cases of old irreducible dislocations of the shoulder, came to hand. I cannot find it just now, but remember that he made a free incision in each case and, after freeing the bone from its adhesions, returned it to the glenoid cavity without

excision of the head of the bone. Whenever this can be accomplished it should be done, for it is good surgery to remove nothing, or, just as little as possible in all surgical operations, unless the final result of the case will be bettered by the removal of any portion which prevents the proper apposition of the parts. Mr. Marmaduke Shield (*Med. Chir. Trans.*, vol. lxxi., p. 173) describes the case of a man, aged 48, who was suffering from an unreduced sub-coracoid dislocation of the shoulder of eleven weeks' duration. Attempts to reduce the dislocation failed; the head of the humerus was excised, the saw traversed the *anatomical neck*. The patient so far gained the use of the limb that he returned to his employment, that of a waiter at a large hotel. Mr. Shield concludes his paper thus: "The operations designed and performed for the relief of old dislocations would seem to fall under the following headings:—

1. Cutting down upon the bone and dividing those structures, muscular or ligamentous, which prevent the return of the head of the bone to its normal position.

2. Subcutaneous division of resistant structures.

3. Excision of the head of the bone.

Fracture may almost be placed out of consideration as a deliberate method to be advised or practiced.

As regards the first of these methods, though doubtless it would be possible to restore the head of the bone to position by a sufficiently free use of the knife, the operation would be an extensive one, not devoid of risk; and should it succeed in design it is questionable whether the displacement would not return, or a useful limb result. So far as subcutaneous division of resistant structures is concerned many of the same objections apply. In these cases, from various causes, the anatomical structures in the axilla may be altered in position, and, indeed, may be incorporated by inflammation with the very structures that need division.

Should firm bony ankylosis have ensued the operation of sub-cutaneous section of the bone, devised by Adams, may prove advantageous.

The operation of excision of the head of the bone would thus be reserved for those cases of old dislocation where moderate efforts at reduction failed in accomplishing their object, and symptoms of pressure on the nerve trunks and main vessels were present, or where great fixity and loss of movement existed."

The head of the humerus was removed by Fenger in a case of old luxation with benefit to the patient; the previously-existing paralysis being relieved.

Knapp reviews reported cases of operative reduction of shoulder dislocations and two of his own, and comes to the conclusion that, except in recent cases, resection of the head of the humerus is to be preferred.

J. G. Morton operated upon a sub-coracoid dislocation 3½ months in a man of twenty-four years. He made "a vertical incision through the deltoid down to the head and found it so firmly attached in the abnormal posi-

tion that it was not possible, without the greatest risk, to attempt to dislodge it. He then carried a chain saw around the bone at the *anatomical neck* and sectioned the shaft obliquely; from below, upward, and then readily placed the divided end in the glenoid cavity." The wound healed promptly, and the prospect of having a useful limb was good.

Excisions for disease of the head of the humerus following reduction of an old luxation with recovery of excellent motion is reported by Bellamy.

Old irreducible dislocations of the shoulder. A. Pearce Gould (*Med. Cir.*, February 22nd, 1892) showed a case of fourteen months' standing. An anterior incision was made, and, with much difficulty, due partly to filling up of glenoid cavity and partly to general shortening of parts round joint, he turned the head back into the socket. The man could perform all the usual movements of the shoulder, but the hand was still damaged, owing to long pressure on ulnar nerve.

W. W. Cheyne showed a case of four months' standing, in which he, like Gould, had had to divide muscles like the coraco-brachialis and the pectoralis major freely. Result less satisfactory than in Gould's case, but the man could work as a French polisher.

Sir W. MacCormac (*Sem. Med.*, 1893, p. 150). In a recent case MacCormac, failing to reduce the head, would excise it at once rather than wait for union, where there was fracture of humerus high up. Pollosson, of Lyons, referred to five cases of dislocation, one six months' old, the rest three to six weeks. He used Ollier's cut parallel to the pectoro-deltoid interval. In the first three cases he reduced easily and obtained very good results; in the 4th and 5th cases the retracted soft parts and turned in capsule opposed reduction. Pollosson would thus treat all cases irreducible by traction, and failing to reduce by operation would resect the head.

Frank H. Hamilton in his work on Fractures and Dislocations, p. 657, says: "In a case in which the head of the humerus, long dislocated, pressed upon the brachial plexus, causing great suffering, Dr. Edward Warren, of Baltimore, practised resection in 1869, giving immediate and permanent relief."

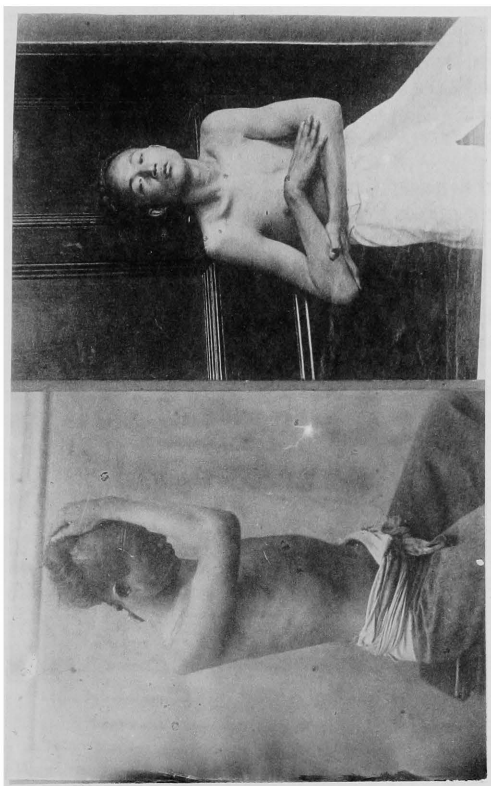
In a system of surgery by F. Treves, A. Marmaduke Shield, F.R.C.S., says, speaking of the treatment of old dislocations of the shoulder, p. 979, vol. 1: "The necessary force that is used in some of these cases" (attempts at reduction) "may result in the following lamentable complications: 1. Rupture of the vessels, diffuse axillary aneurysm. 2. Extensive effusion of blood from laceration of the tissues, with subsequent diffuse suppuration. 3. Laceration of the skin, with erysipelatous inflammation. 4. Injury of the nerves. 5. Fractures of the shaft of the humerus, or of the ribs. 6. In old and feeble persons, death from shock, or cerebral symptoms, suggestive of thrombosis or embolism.

Lastly, after prolonged and exhaustive efforts the surgeon may quite fail in his endeavor to restore the head of the bone to its place, though he has exposed his patient to one or more of the above dangers, and this, in my experience, is the common result of attempts to reduce old dislocations of the shoulder.

The resources of modern aseptic surgery have rendered open arthrotomy very advantageous in some of these cases. The short muscles and all resistant structures are freely divided, the vessels and nerves peeled from the capsule with a rugine and the head of the bone restored to its place. The results of this proceeding have been excellent. The operation may be most difficult, and it is astonishing how the head of the humerus remains fixed, even when the ligaments and short muscles are extensively divided. No surgeon should lightly undertake it. Excision of the head of the bone is easier, attended with less operative interference, and gives admirable results. Great care should be taken not to divide the circumflex artery *too close* to the main trunk, or it may be impossible to arrest the bleeding without ligature of the axillary vessel or amputation. The special indication for open operations on old dislocations of the shoulder is nerve pressure from the head of the bone with atrophy and weakness of the limb. Here great care must be exercised to discriminate between the symptom of nerve pressure and nerve rupture."

Stimson, an American Text-book of Surgery, p. 428, says: "If the dislocation cannot be reduced by the usual methods after freely breaking the adhesions by forcible rotation and traction the surgeon has his choice between reduction by open arthrotomy and excision of the head of the humerus. The former has furnished a few good results, but it has more often proved impossible to make reduction or the usefulness of the limb has not been increased. Excision of the head through an anterior incision or through one in the axilla relieves pressure and gives a movable joint; if the division of the bone is made below the tuberosities active rotation is lost."

The above quotations are sufficient to show that if a dislocation of the shoulder cannot be reduced by a well-planned effort the surgeon is fully justified in making his choice between reduction by open arthrotomy and excision of the head of the humerus. Reduction by open arthrotomy may be most difficult; sometimes it is not possible. Excision of the head of the bone is easier, is attended with less operative interference, and it gives admirable results. The cautions given by Mr. Shield should be borne in mind, and it is a good rule to remove only the head of the bone and then see if reduction cannot be effected, for if it is needed another slice of the bone can be taken off. This is better than making the first section below the tuberosities, for in that case active rotation is lost. The accompanying wood cuts, taken from the photographs of the case, will serve to illustrate the results of the operation.



EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Early in March an outbreak of cerebro-spinal fever occurred in this city in a district near the T'sao-hu-men. Four cases were seen, but altogether I was told there were over a dozen cases in the immediate neighbourhood. The following are brief notes of the cases I attended:—

I. *Tsen*, age $1\frac{1}{2}$ years.—This illness began with fever. An eruption appeared on his body, which the child's parents told me was measles. On the 4th of March, when I was first called to see the child, I found him lying in his cot with his head thrown back, eyes fixed and staring. Convulsions came on on the 6th, and he died on the 7th.

II. *Lung*, age 6 months.—Illness commenced on the 1st of March with fever, twitching of muscles and later on convulsions. I saw this little patient on the 8th of March. He was lying in the characteristic attitude with the head thrown back. There was still some twitching of the facial muscles, but he seemed to be improving. This child recovered.

III. *Lung*, age 5 years.—Illness began with convulsions on the 4th of March. Saw her on the 8th. Characteristic attitude and convulsions. Died the same evening.

IV. *Lung*, age 8 years.—Illness began on the 1st of March (same day as case II) with fever, twitching of the muscles and oscillation of the eyes, but no marked convulsions. Characteristic attitude. This child recovered.

Cases II, III and IV all occurred in one family.

Wuchang.

A. M. MACKAY.*

* [Just as we go to press comes the news of the death of Dr. Mackay from cholera. This is a sad and terrible loss to the work in Wuchang. We hope to publish a short account of his work in our next issue.—ED.]



THE EDUCATION AND EMPLOYMENT OF CHINESE MEDICAL EVANGELISTS BY THE MISSION.

By H. T. WHITNEY, *Foochow*.

The Foochow Missionary Union appointed a committee to prepare a report on the above subject. The report was accepted, and the writer was asked to prepare a paper on the same subject for a subsequent meeting; and subsequently he was requested to send it to our journal for publication.

Hence what follows contains the substance of the committee's report and of the paper afterwards written; but I will first give the opinions of two other members of the committee according to the original arrangement.

Dr. Kate C. Woodhull stated, in effect, that those whom we train would be able to make a living by setting up in practice for themselves and would thus be centres of light and Christian influence, in addition to the good they would do by their medical work; that the best of those trained would consider this the most desirable way of working; that they might need to be helped somewhat at first and afterwards be looked after and encouraged; that a limited number would find places as assistants in the hospitals and aid in training other students; and that others, perhaps, could be used in touring.

Dr. B. Von Someren Taylor's opinion was that, by means of such men the church became provided with useful and well trained men, who would have many opportunities for reaching their fellow-countrymen, not merely by words but also by actions; that such opportunities would be more than a catechist would have and also be of a more telling nature. He knew no objections to such a policy that might not be equally urged against a catechist. As to safe-guarding such a policy he submitted the "Regulations" passed by the Foochow Sub-conference of the Church Missionary Society respecting those they receive, educate and employ. These "Regulations" are as follows:—

1. Application to become a student must be made through the Foochow Sub-conference.

2. Students must be fitted for mission work and give proof of a good education.

3. Minimum age must be twenty in Chinese.

4. Before entering each student must enter into a bond, with satisfactory security of \$100.00, to remain five years, which may be terminated by mutual consent. In case of breach of the bond the money to be recovered according to Chinese law, if it cannot otherwise be obtained.

5. That the students receive no salary during the five years, but that each student be allowed wood and oil free.

6. That two scholarships, of \$8.00 and \$4.00 respectively, be given, as the result of examination, either to the first and second students of one class, or to the two first students of two classes, i.e., the student of highest standing in each of two classes.

7. That the salary of a trained certificated student, whether married or unmarried, be \$8.00 per month.

8. That an increase of \$1.00 per month be given at the end of every five years up to \$10.00 per month, i.e., \$8.00 per month for the first five years, \$9.00 per month for the second five years and \$10.00 per month ever after.

9. Students while under training to remain unmarried, unless with express permission of Conference.

I regard these as a very good set of rules, though for wider application I would suggest a modification of Nos. 5 and 7, *i.e.*, as many of our best students are poor a graded allowance might be given to such, besides light and fuel, of \$1.00 per month the first year up to \$5.00 per month the fifth year.

Then, on leaving the hospital six or seven dollars per month would be a more equitable allowance for the first year and a gradual increase, according to location and other circumstances; more than that would be out of proportion to what is ordinarily allowed our preachers, and would tend to excite envy and ill-feeling. Moreover, their actual needs would not require a large salary at first.

I think there is use for a limited number of this class of workers, and that the policy of each mission should be such as to allow of their employment wherever there is a proper opening and the right kind of persons can be found; it seems wise to me, also, that such help should not be admitted by any mission except on some such conditions as above. But the policy that looks toward the use of such an agency requires a preparation anticipating such employment, or the proper help cannot be had when wanted. It is to be conceded, also, that the right kind of material for medical evangelists is hard to be found, as much so as for good preachers.

Second grade Chinese *can* be used in hospitals and dispensaries when they are under the care and supervision of a medical missionary, but there are comparatively few that a mission could employ and trust in the position of medical evangelists with all that *that* implies.

The principal objection to this policy has been the feeling that the Chinese could not be trusted in financial matters, a complaint that is made of Christians from heathenism in all heathen lands.

But a mission ought to be able to safeguard itself so that it could use to advantage such a valuable agency in the prosecution of its work.

One of the principal difficulties met with in training medical students is the temptation to dispose of drugs privately and exact private fees in order to increase their income. But this temptation arises, largely, from not having sufficient means of support while prosecuting their studies. So that a mission in educating such helpers should see that they have a sufficient support while studying and a reasonable salary when employed, in order to remove, as far as possible, the temptation to dishonesty.

As a further safeguard the bond and \$100.00 penalty should be continued, only a moderate outfit allowed and monthly accounts taken. They should not be stationed where they cannot be seen at least once a month by the medical missionary and in the interval be under the oversight of a missionary or reliable helper. When such help is employed by a mission it should be definitely understood, by both parties, that any trace of

dishonesty at any time would forfeit their position and require the payment of the penalty. This would act as a strong restraint upon a Chinese. It is true if any one was disposed to be dishonest there would be some opportunity with drugs, instruments and fees, but it would involve a good deal of danger; the fear also of being discovered, disgraced, losing a good position and of having to pay a money penalty, would help them to resist a pretty strong temptation to dishonesty.

Then, too, the temptations would be very much lessened from the fact that they would need only a small stock of drugs, very few instruments, and that no opium or morphine would be allowed, except a small quantity in combination with other drugs for treatment of special diseases.

It is true the mission would have to take some risks, as it has to in the employment of other agencies. The preachers, teachers and colporteurs have various opportunities for practising dishonesty, and no doubt some of them avail themselves of them at times. But still we trust them, because we believe that in the main they render fair service and are pretty honest, judged by the usual standard. Moreover, to refuse to employ native agents, because of the liability of a dishonest few, would lead to the abandonment of a large part of mission work. Native medical help, particularly in China, can be made a most valuable auxiliary to mission work, and it is, therefore, our duty to make the best possible use of it.

Whether this can be best accomplished through hospital assistants, and aiding Christian Chinese in practice for themselves, or by the mission educating and employing them as special agents, is a question which each mission ought to candidly consider and settle for itself.

P. S. The Church Missionary Society in Foochow have adopted this policy now for several years and, as far as I know, is quite well pleased with the results. The other two missions are a little timid, and are holding off, but I hope the time is not distant when they will favour the policy at least and utilize this valuable agency to the greatest possible extent.

Pagoda Anchorage.

The China Medical Missionary Journal.

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No. 3.

Editorial.

The general principle involved in Dr. Kerr's suggestion, that the answers to the questions issued by the Opium Committee should be postponed for some years, is a good one and one to which we heartily subscribe. The question as to how long a time should elapse before those answers are called in is another matter, and involves so many considerations that the Committee could hardly decide off hand as to the best course to take. We invite the Association to express its opinion on the subject in the columns of this journal, so that the members of the Committee may have the general feeling of the Society before them ere they take further action. For our own part we feel that there is no need for hurry in the matter. The general public have, for the present, put the opium question aside and accepted the Report of the Royal Commission as final. That it is not, and cannot be so, we firmly believe; but it seems to us that the wisest course, for the present, is for us to be preparing for the further opening of the question which is bound to come in the future. Meantime the various anti-opium societies at home will keep the matter before the general public, and much good may be done by examining the details of the Report in some such manner as the Rev. A. Foster has done in the very able and valuable paper which we published in our last issue. There are many facts and statistics about the opium habit which only time and painstaking observation can supply: we medical missionaries are the ones (in many cases the *only* ones) who can best supply this information *as far as China is concerned*, and although our testimony is sure to be sneered at and discounted in certain quarters, *just because we are medical missionaries*, yet truth must and will prevail in the end. Be it ours in this matter, with untiring perseverance, through ill-report and opposition, to seek and boldly bear testimony to that truth!

In the July number of *Medical Missions at Home and Abroad*, just to hand, is published an article which merits more than a passing notice. It is entitled "Malarial Continued Fever," and we are told it is a chapter from a booklet published by Dr. A. Sims, of Leopoldville, who "is probably the most experienced living authority on the fevers of the Congo." Though we do not live on the Congo we live in a highly malarious country, and everything bearing on the question of the diagnosis and treatment of malarial fever is of the greatest interest to us. We must confess to a feeling of great disappointment on reading this article, not unmingled with something more than a doubt as to the nature of the fever dealt with. We are told that "the French physicians describe it as typhoid fever without diarrhoea spots," and that "it is eminently the fever of the newly-arrived and the unacclimatised." We should not be surprised if, after all, the French physicians be nearer the truth than Dr. Sims.

We note: "It lasts twenty-five days in typical cases;" it is liable to relapse, but "never seems to recur." "Baths, antipyrin, antifebrin and quinine administered in any way have no effect on it." "The evening temperature is always higher than the morning one," and there is "a rising temperature always higher than the day before." Now, although malarial fever does frequently simulate typhoid fever very closely, we venture to affirm that the statements we have quoted, *taken together, do not prima facie* give a clinical picture of malarial continued fever, and in the absence of any statement as to the microscopical examination of the blood we must decline to accept it as such. The time is past when we can write thus of malarial continued fever: the history of the past has taught us how many are the pit falls awaiting the clinical investigator of malarial fever. Knowing, as we do now, from the researches of Golgi, Marchiafava, Laveran, Bignami and many others, with some approach to completeness, the life history of the malarial parasite it is, in our opinion, Major General Laurie notwithstanding, highly dangerous to fill the minds of young medical men going to the Congo, or elsewhere, with the teaching that the above picture is that of a malarial continued fever. We do not say that the above picture, though certainly an incomplete and scientifically inaccurate picture, might not be that of a *pernicious* malarial fever, for it might; it is also true that some cases of pernicious fever may result in death, or persistent relapses, notwithstanding the abundant subcutaneous injection of quinine. But this only occurs occasionally, and it

would not be true to say of pernicious malarial fevers, *as a class*, as Dr. Sims does of this Congo fever, that "quinine administered in any way has no effect" on them. It is not in accord with clinical experience checked by microscopical research, in other parts of the world, that a malarial continued fever "never seems to recur;" the very opposite is the truth, especially in the fevers due to the second group of parasites (including the pigmented quotidian parasite, the unpigmented parasite and the malignant tertian parasite) which all form crescents, for the crescents are absolutely proof against the action of quinine, and in all probability (though this is not absolutely established) develop spores, either directly from themselves or from the spherical bodies of their series. We have drawn attention to this article with a double purpose: first to point out the absolute necessity of a careful microscopical examination of the blood before pronouncing an assemblage of such equivocal symptoms as the above to be due to malaria; and, secondly, to urge upon our members the positive *duty* devolving upon them to contribute their mite to our increasing knowledge of these protean fevers. Now that the view is generally accepted "that different types of fever require different hæmatozoa," as against Laveran's view that they are all due to "a very polymorphous but single organism," a wide field of investigation is opened out; further, there are many questions related to the crescentic bodies which need elucidation, specially their relation to the well-known clinical fact that an attack of ague or malarial fever may follow a surgical operation without any obvious fresh infection having taken place (see Paget's Clinical Lectures). We have no doubt that many of our readers are quite familiar with the most recent researches on this subject, and we trust that we shall all do our best to confirm, correct, or extend, as far as lies in our power, what is already known upon this great subject. How much can be done with even limited apparatus Laveran's example proclaims, but as we are not all a Laveran a good microscope, with a sub-stage, an Abbe's condenser and a $\frac{1}{2}$ in. oil immersion, should be part of the equipment of every mission hospital.

We wish to call especial notice to the announcement of proposed changes in the Constitution and By-Laws of the Society made in this No. of the Journal. According to rule notice of motion is given now; the motions, themselves, will be submitted for voting on in the December No. Anybody can move an amendment in writing to any one of the amendments now proposed, which amendment will be submitted to the

Society for voting on in the December No. Time will be saved if members will forward any amendments they may have to make *direct to the Editor*, not later than *November 15*. As this is a very important matter we trust that everybody will carefully study and, in due time, vote on the proposed changes.

Medical and Surgical Progress.

CALCIUM CHLORIDE.

The value of chloride of calcium as a hæmostatic forms the subject of a recent communication by Prof. Saundby to the *Birmingham Medical Review*. He records one case of severe BLEEDING FROM THE RECTUM, probably due to piles, in which the drug, administered in small doses every four hours, caused the bleeding to stop in five days.

In another case of PURPURA HÆMORRHAGICA, where there was bleeding from the gums and slight HÆMATURIA, in which ergot, gallic acid and acid infusion of roses had been used in vain, small doses of the calcium chloride checked the bleeding in five days.

There is a very important point respecting the dose of this drug. When too large a dose is given the coagulability of the blood is diminished instead of increased, so that the best results may be looked for from comparatively small doses. In the author's cases the drug was administered in the form of the liquor calcii chloridi of the new British Pharmacopœia, which is of the strength of 1 to 5, and the dose employed never exceeded 30 minims, or 6 grains, though in the case of purpura this quantity was given every two hours during the day for some days.

THE COMPARATIVE VALUES OF TRIONAL CHLORALOSE AND SOMNAL.

(*La Presse Médicale*, March 23rd, 1895, Paris.)—In patients not the subject of psychical trouble 1 to 2 grammes (in weakly women 1 gramme) produces a dreamless sleep, but has the same disadvantages on administration and awakening as sulphonal; over that drug it has one great advantage, that its use can be continued

for a year without producing circulatory, respiratory, or digestive troubles. It acts most beneficially in the insomnia, with restlessness, of chronic mania and in alcoholic delirium, in which large doses may be given with good effect; but its depressing action is harmful in melancholia and especially cerebral neurasthenia in which it increases the depression. It should be prescribed at intervals of two days, to avoid cumulative action. Chloralose has one great disadvantage, that it produces symptoms of intoxication, shown by an increased reflex excitability of the cord and even convulsions, especially if the dose, which is uncertain for the individual, exceed 60 centigrammes and less in the case of debilitated, hysterical or alcoholic subjects. The convulsions rapidly disappear after awakening, without any ulterior effect. The investigations were conducted chiefly among the insane as a hypnotic with beneficial results. Somnal is most beneficial in procuring sleep in acute melancholia; in other subjects it usually produces first of all slight intoxication, then sleep with pleasant dreams. After doses up to 3 grammes sleep, with interruptions, comes on in about half an hour and after 5 grammes profound sleep. On awakening there are no disagreeable after-effects; this is its great advantage over other hypnotics. It has none of the motor troubles of chloralose. It is contra-indicated in dyspepsia and a tendency to diarrhœa. In their relative actions trional acts more slowly than chloralose, the after-effect is more prolonged and awakening is painful; chloralose before producing sleep induces an intoxication, but the awakening is fresh and agreeable. The intoxication of chloralose is without danger, which is not the case in that rare occurrence with trional when se-

vere symptoms, which are not without danger, appear; trional, however, has the advantage of being more uniform in its action, and its minimum useful dose is more easily found. Fatal results have been recorded after the administration of from 20 to 25 centigrammes of chloralose, although over sixty have been given without serious symptoms being produced. Marie maintains that with chloralose the best results are obtained by beginning with 10 centigrammes, gradually increasing the dose to fifteen or twenty.

STERILE PUS IN ABSCESS OF THE LIVER.

(*La Stérilité dans le pus des abcès du foie*).—L. Longuet (*La Presse Médicale*, Mar. 16th, 1895.)—A most interesting case is here recorded of a patient, aged forty-one, who suffered from a slowly developed abscess of the liver, which recurred twice after it had been first opened and needed three laparotomies for its cure. On the last occasion 41.2 litres of pus were evacuated of a somewhat thick consistency and of a chocolate colour, mixed with yellowish-white curds. The cavity, which was not limited by any definite pyogenic membrane, was washed out and drained with an iodoform gauze tampon. A perfect recovery followed the last operation in the course of six or eight weeks. Several points of interest are commented on, the most important being as follows:—the abscess arose without any assignable cause; there was no history of diarrhoea, dysentery, piles, or traumatism. The condition relapsed twice in spite of apparently successful operations, a most unusual occurrence in hepatic suppuration. The volume of the abscess was very great. Dutrouleau and Rendu estimate the size of a large hepatic abscess as containing 400 or 500 grammes of pus. There are not many cases on record in which a larger amount of pus was found than in the above. Lastly, the pus was absolutely sterile, no organisms

being found on microscopic examination and no growth taking place on test tube cultivations.

The sterility of the pus in certain abscesses of the liver is now well recognised. It was first pointed out by Bokai in 1881 and since that time M. Longuet has collected thirty-eight observations of a similar nature. Such is more likely to occur in those abscesses which arise spontaneously than in those secondary to ulceration of the bowel. The absence of organisms is an important element from the standpoint of prognosis, since it suggests the possibility of rupture of the abscess into the peritoneal cavity without fatal results; indeed, cases have occurred where it has been sufficient merely to wash out the pus in order to ensure a cure. The explanation of these facts is then discussed. One suggestion that has been made is that the organisms have been killed by the action of the bile. This, however, is a mistake, since it has since been shown that the bile is an excellent medium for the cultivation of certain forms of bacteria. Again, it has been supposed that hepatic suppuration is due to germs which cannot be demonstrated by any of the ordinary methods of examination; the existence of such organisms is, however, entirely hypothetical. Others have thought that the active elements consisted of amœbæ or other low forms of life connected with the primary dysenteric symptoms. But by far the most likely theory is that the sterility is developed secondarily by the gradual disappearance of the microbes, owing to some chemical action of the liver cells, of which we understand nothing at present. This explains in measure the observations that have been made in which staphylococci were discovered microscopically; but the results of cultivation experiments were entirely negative, the organisms, though present, apparently not retaining sufficient vitality to develop in nutrient media. This, too, agrees with

the fact that in all but one of the cases in which sterile pus was found in an hepatic abscess the onset of the symptoms was gradual and not acute; even in this exception there is no knowing when the suppuration actually commenced. In conclusion, it is pointed out that, although so many of these abscesses are sterile, the surgeon must not presume to neglect any antiseptic precaution, since cases are on record in which bad results have followed operative interference, even in these favourable conditions.

NASAL TABLOIDS.

Seiler's Formula (*Messrs. Burroughs and Wellcome*).—Many gargles and spray solutions, if kept any time (and frequently they are only required occasionally), are apt to decompose from the formation of fungi in them; they are bulky; and as they should be used warm calculation has to be made for dilution with warm water before prescribing them. All these objections are overcome by using these tabloids, which are alkaline, cleansing and antiseptic without being irritating. Dissolved in a wineglass of warm water a solution can be prepared instantly which is most useful in nasal or pharyngeal catarrh, and which might, with advantage, be employed systematically as a mouth-wash or nose-lotion in all acute or zymotic diseases. They contain no cocaine, and so cannot be abused by patients.

THE PROPER WAY TO STERILISE MILK.

There has been so much recent discussion on the subject of milk as a circulator of disease that the following directions will be of interest:—

The milk to be sterilised for the use of children should be placed in a clean bottle, which is put inside any convenient metal vessel into which cold water should be poured until it reaches the level of the

milk in the bottle. The mouth of the bottle should be closed with a plug of clean white cotton wool. It will be found more convenient in practice to raise the bottle containing the milk about half an inch from the bottom of the outer vessel by any convenient means, as this facilitates the circulation of the hot water round the bottle. The outer vessel should then be placed on a stove and slowly heated until the temperature of the water reaches the boiling point. The vessel should then be taken from the fire and covered over closely with a piece of woollen cloth. It should remain covered for half an hour, at the expiration of which time the bottle should be taken out and put in a cool place.

HOW TO PREPARE MALTED MILK.

The following method is recommended by the editor of *Modern Medicine*.—To a pint of milk add one tablespoonful of malt. The milk may be heated to a temperature of 60°. After that it should be brought to a boiling-point and boiled for twenty or thirty minutes. This will check the further action of the malt. Milk thus treated does not form large, hard, curds in the stomach, and agrees perfectly with many persons who cannot digest milk in its ordinary form. This method of peptonising milk is much preferable to the old way, in which various preparations of pancreatin were employed; these animal substances not unfrequently gave to milk a very unpleasant flavour and odour and sometimes imparted to it poisonous substances.

IN CHOLERA INFANTUM.

During the first twenty-four to forty-eight hours, no food should be allowed. Give the child all the hot water it will take, preferably from a nursing-bottle. Copious enemata of hot water

containing sulphite of soda or some other safe antiseptic, should be slowly administered. In severe cases, especially where there is much vomiting, stomach washing by means of a Nélaton's catheter will be found valuable. At the beginning of treatment an aperient in the form of calomel, rhubarb, or castor oil is almost universally employed. Opiates should never be used until after thorough evacuation and cleansing of the bowels, then only with extreme caution. If there is much fever tepid spongebaths will reduce the temperature and *relieve* the thirst.

In ordinary cases of infantile diarrhoea, due to indigestion and bad hygiene, a proper observance of general rules will usually be sufficient to effect a cure. Some cases, however, may require the aid of medicines. Use such remedies as promote digestion and destroy fermentations and putrefactions; the diarrhoea will then take care of itself. For the first purpose pepsin combined with muriatic acid stands, in my opinion, pre-eminently at the head of the list. Many physicians fail to get any benefit from pepsin, because their doses are too small; many more fail, because they ignore the physiological maxim that pepsin is inert except in the presence of an acid.

Nux vomica and small doses of arsenic are valuable adjuncts, since they promote the secretion of gastric juice and serve as excellent nerve and muscular tonics. The following is a reliable mixture which I have often used and I can conscientiously say it has never yet disappointed me.

[B. Pepsin, 2 dr.]

Bismuth Subnit. ii.-iv. dr.

Liq. Potassii Arsenit. m. xv.-xx.

Tr. Nucis Vom. m. xxx.-xl.

Acidi Muriatici Dil. m. xxx.-xl.

Aquae Cinnamomi, q. s. ad. oz. iv.

"M. Sig.: Teaspoonful three or four times a day after feeding for child six to twelve months old."—Dr. N. J. PHENIX, *Medical Record*, 29th June, 1895.

THE TECHNIQUE OF THE BURIED TENDON SUTURE.

By HENRY O. MARCY, M.D.,

Boston.

The constant receipt of letters from all parts of the country, containing inquiries concerning the method for the safe use of the buried animal suture, prompts the writing of this brief contribution. At the risk of seeming dogmatism I venture to assert that aseptic wounds, with very few exceptions, should be primarily closed by buried tendon sutures and hermetically sealed with iodoform collodion.

To accomplish this the surgeon must be master of the technique of aseptic surgery. Without it the buried animal suture should never be used. Under aseptic conditions this suture may be safely applied, with the assurance that the collodion seal is a guarantee of subsequent non-infection. Other suture material may be employed—as, for example, silk, silkworm gut, silver wire, etc.—with the certitude it is non-infective when properly applied and that it will maintain the structures in coaptation for an indefinite period.

I need, however, only refer to the general consensus of opinion that these materials are objectionable, because of their non-absorbability, that too often such sutures become a source of subsequent irritation and discomfort and that not seldom they are eliminated as foreign bodies. To avoid these results the animal suture has received wide adoption. This was found ready at hand, seemingly well adapted to the purpose, in the catgut of commerce. Smooth, even, strong, in varying sizes, what could be more satisfactory? It was soon discovered, however, that it was difficult of sterilization, and, as usually prepared, did not remain sufficiently long intact in the structures. Hence has arisen a great variety of methods of preparation. The defect, however, is inherent in the structure itself.

It must be remembered that catgut is the connective-tissue sheath of the small intestine of the sheep. In order to separate it from the other intestinal coats the intestine must be subjected for a considerable period to the decomposing processes of putrefaction. This is accomplished by the bacterial growths which develop in its maceration, which attack the connective-tissue sheath last as the most resistant. When, this process being held in abeyance and the fibrous coat of the intestine has been cleaned it is found to consist of a thin layer of connective-tissue bundles which interlace obliquely in order to permit the physiological foreshortening and expansion of the intestine. The cement substance which holds the cells together has been more or less injured by the process of maceration and the entire structure is everywhere replete with bacterial growths.

Longitudinal division leaves flat bands of this tissue, which are twisted into strings of varying thickness, the catgut of commerce. When dry this is very strong and tolerably inelastic; but when wet, as for example when buried in the tissues of the body, it speedily becomes a soft, flattened, band of elastic structure, a condition which easily explains the unsatisfactory use of catgut in surgery, almost regardless of the processes of preparation to which it has been subjected.

In the tendons of animals the connective-tissue cells are disposed in an entirely different manner and for quite another physiological purpose in the animal economy. Here the fibrils are placed in parallel bundles, held together by the cement substance for almost the sole purpose of strength. When they are of any considerable size a few lateral fibres are interspersed for the purpose of holding the bundles together in a single mass. It is on this account that a tendon is weakened by subdivision and, when it is too minutely divided, it may become worthless for the purposes of strength because of the fraying

out of these lateral fibres. Tendons subjected to maceration, like catgut, become speedily damaged, because of the softening of the cement substance which holds together the connective-tissue cells and, under these conditions, like catgut, the tendon is easily ruined.

Carefully selected tendons are to be preferred for buried sutures, since primarily their anatomical construction makes them stronger, more compact, and, as a consequence, more resistant to the softening processes which must ensue when buried in the living structures.

Secondly, when properly preserved they have never been subjected to bacterial decomposition and, hence, they can be sterilized without detriment to their ultimate elements. Such tendons serve a very good purpose as sutures when taken directly from the freshly killed animal. This, however, is very rarely convenient and therefore some process of preservation must be resorted to. If they are quickly sun-dried and kept dry they can be preserved for a long period, since bacteria cannot develop without moisture. This has been the custom indefinitely among the Indians in the preservation of their tendon suture material, which has been the thread of the savage since the beginning of history.

Although many surgeons use them preserved in a dry state, soaking them when ready for application until supple in some antiseptic, the sutures, even if aseptic, soften too quickly in the tissues.

Time does not permit a review of the various processes which have been recommended for the preservation and preparation of the animal suture. Perhaps the more common method has been to preserve it in alcohol alone or combined with other substances. When subjected to dry heat, to boiling repeatedly in alcohol, or under pressure, the connective-tissue structures are rendered sterile, but they are seriously damaged in their inherent composition, both in the connective-tissue cells and in the ce-

ment substance which holds them together.

Profiting by the experience of the ages in the manufacturing of skins into leather, astringents in combination with oils have been experimented with and in many ways most satisfactorily. This is largely the advantage obtained in the use of chromic acid, which, by a kind of hardening process, tans the tendon, that is, fixes the cement substance holding the cells in more permanent apposition and renders it far more resistant to the macerating effects of fluids. Hence chromicized catgut or tendon undergoes change much more slowly when buried in the living tissues.

The difference in structure of the two substances already referred to is easily shown by the simple immersion of catgut and tendon, similarly prepared, for half an hour in a warm fluid as, for example, in a 1 to 1,000 solution of bichloride of mercury. The catgut becomes swollen, slippery, can be threaded with difficulty and, when tied, the knot holds very imperfectly. On the contrary, the tendon is supple, firm, inelastic, does not kink, and is manipulated with an ease and satisfaction unknown to one who has used only silk or catgut. When tendon has been chromicized it is best preserved in a sterilized oily fluid. Experience has shown that by far the best preserving fluid is linseed oil sterilized by heat, to which carbolic acid has been added. Tendon improves with age, so much so indeed that I rarely use it until it has been thus kept in the oil from three to six months.

A method far too common has been to preserve chromicized catgut and tendon in absolute alcohol, boiled under pressure. There is no question but that such material is absolutely sterile, but the important factor has been singularly overlooked that by this process the chromic acid is dissolved out of the tendon, thereby leaving it really less valuable than if chromic acid had not been used.

There remains the vital question to be answered, How may the surgeon be assured

that the tendon suture in itself is not a source of infection? Primarily, that it has been taken from a freshly killed animal, that the said tendon has been quickly sun-dried and kept dry until ready for preparation. This consists, first, in soaking the tendon in a solution of 1 to 1,000 bichloride of mercury until supple. Then, carefully separate each tendon individually and dry separately between sterilized towels. They are then assorted into small bundles and chromicized with the greatest care in a 1 to 20 watery solution of carbolic acid to which has been added one four-thousandth part of purified chromic acid. The tendon must be immersed in the solution immediately upon the preparation of the fluid, since otherwise in a short period the chromic acid is thrown down as a sedimentary deposit. The process of chromicization goes on more or less rapidly [dependent upon heat, exposure to sunlight, the quantity of material manipulated] and requires careful watching, since if too rapidly effected, or permitted to remain too long in the solution, the tendon may be easily ruined. When properly chromicized the tendon should be of a dark golden colour. When taken from the chromicizing fluid the tendon is best dried in the sunshine between sterilized towels and should be immediately put up in carbolic oil, the whole process carefully conducted under aseptic conditions, the bottles securely corked and sealed. When wanted for use the tendon is carefully taken from the bottle, soaked in a mercuric solution until supple, and then arranged in parallel strands, wrapped in a folded towel saturated with a 1 to 1,000 mercuric solution, the ends of the tendons exposed so that they may be withdrawn one at a time as selected. If more convenient they can remain immersed in a dish of bichloride solution during the operation and selected therefrom as required. The amount of the bichloride contained in the suture does no harm to the structures in which it is buried. I have often thought it an advantage rather than otherwise.

The aseptic suture, buried in wounds which have been made and maintained aseptic, approaches nearer to the ideal than any other material yet in use. By it all wounds in healthy tissues, no matter how large, even the major amputations, should be closed securely, like structures joined without recesses or pockets, thus doing away with drainage in any form. This prevents the need of expensive absorbent antiseptic dressings and permits of a germ-proof seal of iodoform collodion. Subsequent infection is *then* impossible.

The method of the application of the suture is of some importance. It should be continuous, since less material is required in the wound, knots are avoided, and the tension upon the structures is equalized. This last is very important. Coaptation, retention and rest are the factors. Undue constriction of the tissues devitalizes the parts and is to be carefully guarded against. If much strain is likely to ensue upon the coaptated parts I usually use the double continuous suture, which I commended to the profession many years since, applying it by means of a needle with eye near the point, so that the suture passes in opposite directions through one opening or puncture in the same manner that the shoemaker carries his bristled thread. It is, however, important to remember we are only to *coaptate* and *not* to *constrict* the structures by such powerful measures. The Hagedorn full-curved needle is very convenient, since it serves as both needle and handle and can consequently be best used without a needle holder.

The end of the suture fastened by a slip knot, the needle is deeply buried in the structures to be coaptated from side to side, each stitch entering directly opposite the emergence of the preceding stitch; when the suture is drawn upon the tendon crosses the wound at right angles and leaves its lips in secure coaptation with *no foreign substance* intervening. This is impossible in the application of the buried

interrupted suture. The skin is closed by a fine tendon suture, taken in a similar way, puncturing only the deeper layer (subcuticular suture). This I devised [and have used it almost daily for the last ten years] designed to avoid stitch abscesses, long before it was known that our most dangerous enemy was a micrococcus ever present in the dying epithelium of the skin.

The larger vessels are better ligatured with fine tendon, not too tightly, however, always remembering simple constriction to prevent bleeding is sought, not necrosis of the inclosed vessel. A wound thus coaptated does not bleed. The serous exudate is at once followed by cell proliferation and the repair processes supervene with a rapidity understood only by those familiar with the histology of aseptic wounds placed at rest. The suture thus buried in healthy tissues is first surrounded by leucocytes, then slowly invaded by them. Little by little these are changed into connective-tissue corpuscles and the tendon is finally replaced by a living band of connective tissue, a re-enforcement of vital importance in many wounds, *e.g.*, hernia, laparotomy, suturing of tendons, muscles, etc. The iodoform collodion seal has many advantages. If the structures below have been aseptically joined there is no subsequent possible infection. It holds the cutaneous surfaces in fixation, retention and at rest. The repair processes which ensue beneath the seal are so minimized that the scar is in large measure avoided; a result in itself comparatively a minor matter, not to be overlooked since a tender cicatrix is a source of discomfort and generally unsightly. The subsequent bandaging is also minimized, often omitted altogether. In this there is a manifest gain in comfort to the patient, saving of expense in material and care, and, most of all, the doing away with the still too common custom of making pressure upon the wounded structures for the purpose of securing coaptation and con-

trolling the escape of blood and serous exudation. Compressed tissues are more or less deprived of the free circulation of the blood upon which their nutrition depends and without which repair is impossible.

The coaptation of sundered aseptic structures by the use of the buried aseptic tendon sutures, and their fixation, retention and rest under an aseptic seal without compression, is the corollary to antiseptic surgery and should be adopted by every competent operator.

In the long series of my experimental studies upon animals in which, under varying conditions, sutures have been buried, I was at first led to believe that the connective-tissue cells of the buried material were, in a measure, revived, as in a graft, so accurately did the living band of connective tissue replace the implanted suture. More careful studies, however, show that the foreign material is at first incapsuled by cell proliferation which, little by little, invades it, causing its disappearance precisely in the same way as necrotic tissue disappears after injury, where the surrounding parts are maintained aseptic.

In over two hundred laparotomies, where the abdominal wound has been closed with buried tendon sutures applied in separate layers, but two cases of subsequent hernia have been noted: one the result of infective sloughing, the other after the removal of a large fibroid tumor, where, rather than a hernia proper, the whole abdominal wall was left relaxed and bulging.

In over three hundred cases of operation for radical cure of hernia, where by means of buried tendon sutures the posterior wall of the inguinal canal has been re-enforced and strengthened and its obliquity restored, more than ninety per cent. have remained permanently cured.

The infection of wounds may never be absolutely prevented, but the experience of surgeons teaches us daily to what a marvelous extent it can be minimized and reduced in aseptic wounds; I confidently

believe, even in hospital practice, to less than five per cent. Indeed, not long ago I examined my own personal experience, reviewing six hundred operations upon aseptic structures with only two per cent. of septic cases—evidence, I think, ample, to show the safety of the coaptation of wounds by the buried animal suture. I am confident that at an early period the use of the buried tendon suture in aseptic wounds will become indispensable.

ULCERS OF THE LEG ; ALL CAN BE CURED.

This paper was read by Dr. Carter S. Cole, of New York. Whatever constitutional conditions obtained that favoured morbid states, or that retarded a return to a healthy state, he said, such a diathesis should receive its proper treatment, whether ulcers existed or not. For systematic purposes, ulcers of the leg were designated by the author according to their appearance as healthy, irritable, indolent, etc. In intractable cases he was inclined to place foremost thorough washing with soap and water and good scrubbing with a stiff-bristle hairbrush. If the ulcer was inflamed, irritable, or painful, anæsthesia might be required for this and subsequent steps. The next step was a thorough cleaning out of all soft granulations and the base of the ulcer with a sharp curette. The edges of the ulcer were scraped away and, in many cases, with a curved sharp bistoury he nicked the circumference at intervals of about a quarter of an inch. If much hæmorrhage followed a pad of gauze wrung out of a two-per-cent. solution of carbolic acid was placed over the wound and a firm compression bandage applied from the toes to the knee, the wound having been previously cleansed with the carbolic-acid solution. The dressing, when used, was allowed to remain for twenty-four or forty-eight hours, after which he considered the ulcer to have become a

simple one and amenable to treatment as follows :—No further lotion was used ; the wound was wiped off with dry cotton and over it, and completely covering it, he placed strips of diachylon plaster to protect the ulcer. Over the surgeon's plaster he applied a pad of sterilized gauze, held in place by strips of rubber adhesive plaster, or often simply by a bandage. He then used a firm muslin bandage from the toes to the knee, making equable compression. The bandaging should be carefully done. Sometimes he used two bandages three inches wide and eight yards long. This bandage was not removed unless the discharge came through, or the leg became painful, or the bandage got loose. When he redressed the ulcer he again used simply dry absorbent cotton to cleanse the wound and proceeded as before. Often after two or three dressings the bandage might remain from five to seven days without being disturbed. In some cases a thin scum forms on the ulcer, which must be removed by going over the surface lightly with a curette. With this treatment, in ordinary cases, about three weeks would suffice for an ulcer of even a dozen years' standing. In extraordinary cases as much as six weeks might be necessary.

STRONTIUM SALTS IN THE TREATMENT OF ALBUMINURIA.

The *Journal des Praticiens* for January 4th contains an article on this subject in which the writer remarks that strontium salts induce a notable and often rapid diminution of albumin in the urine. They are, besides, indirectly useful in aiding digestion, especially in cases of Bright's disease where the patients suffer from an excess of hydrochloric acid in the stomach. Strontium lactate is a good intestinal antiseptic.

According to Constantin Paul, says the writer, strontium is useful only in the parenchymatous form of nephritis. It has no action whatever in the interstitial forms,

in tuberculosis, or in renal syphilis. Gaucher and Gallois observed that strontium acted more readily on albuminuria than on the various other symptoms of Bright's disease. When the employment of the drug was suspended the amount of albumin increased until it reached its original proportion. It appears, then, says the writer, that, in cases of excessive albuminuria, where it is well to moderate the loss of albuminoids, strontium is especially indicated. Gaucher and Gallois recommend the following formula :—

Strontium lactate.....750 grains ;
Water.....11.75 ounces.

It is essential that the drug should be pure and free from barium oxide.

PICRIC ACID IN THE TREATMENT OF BURNS.

The *Lyon Médical* for December 29th contains an abstract of an article published in the *Chronique Médicale* for November 15, 1895, in which the writer states that picric acid has been successfully employed in the treatment of burns. M. Thierry, he says, has made use of it for several years and observed immediate relief. The solution was in the proportion of from ten to fifteen in a thousand. All pain, it seems, says the writer, is immediately suppressed after the affected parts are bathed with this solution ; the wound heals, no blisters form, and complete recovery is a question of a few days only. The employment of this acid presents only one inconvenience, that of leaving a yellow stain on the skin, which, however, will disappear after the application of a boric-acid solution. Picric acid has no odor, and is not caustic, irritant, or toxic in its action.

THE TREATMENT OF THE STUMP OF THE UMBILICAL CORD.

In his new book on the *Therapeutics of Infancy and Childhood*, Dr. A. Jacobi says : "In wrapping up the end of the cord no oil must be used. Warmth and dryness

favor mummification; moisture and exclusion of air, gangrene. This holds good also for the cord when it is separated from the living baby by an additional ligature, and in the dead. Thus, the former forensic axiom that a dry cord proved life, which prevailed for decades after Meckel had demonstrated its fallacy as early as 1853, is absolutely worthless. Thus, fatty substances and moisture of any kind must be avoided as much as possible. Powdered subnitrate of bismuth, or oxide of zinc, or iodoform, or salicylic acid, one part with ten parts of starch, may be dusted round the insertion of the cord and over the stump daily. The latter application is not necessarily useless (from the point of view of antiseptics), for the separation of the cord is a gradual one, and not uniform through the whole thickness of the amnion and the three blood vessels.

"The size of the sore stump and the rapidity or slowness of cicatrization depend upon the thickness of the cord, the intensity of the line of demarcation and the reactive inflammation. The latter are most marked in vigorous infants. As a rule the surface is dry a few days after the falling of the cord, and cicatrization complete within twelve or fifteen days after birth. This normal process is, however, disturbed by careless handling, local irritation and infectious influences. In these cases there is a serous or purulent secretion, and cicatrization may be deferred for many weeks. Under these circumstances local treatment is required. Carbolic acid ought to be avoided, for the newly-born and the infant are easily influenced by its poisonous properties. Solutions of lead, zinc, or alum answer quite well. As before, however, I recommend the powders of zinc oxide, bismuth subnitrate, alum with starch, and salicylic acid with starch, or iodoform. Such measures will always prove helpful; to omit them in times of erysipelas or diphtheria is unpardonable. Perchloride of iron, or subsulphate of iron, must not be

used. Under the hard coagulation formed by its application over the whole wound secretions will accumulate, cannot escape, are absorbed, and produce sepsis. I have seen babies die from applications of iron to the umbilical stump, as I know of women dying for the same reason when the hæmorrhages from their uteri or from the lacerated vagina were maltreated in the same manner."

[Our own experience, after trying many things, is that powdered oxide of zinc is the most rapid and cleanly of all treatments for the umbilical cord.—*Ed. M. M. J.*]

SERUM THERAPY IN LEPROSY.

Dr. Carrasquilla of Bogota, Republic of Columbia, reported to the National Academy of Medicine the result of the use of the serum in 15 cases of leprosy where the diagnosis was positively assured. He used the serum both in the nervous type and in the tubercular type, and obtained most surprising results. He was the first to make and to use serum for this disease in this country. The following modifications were obtained:—

1st. It re-establishes the sensibility more or less rapidly, according to the extent and gravity of the lesions of the peripheral nervous system.

2nd. It causes a discoloration of pigmented spots, without entirely removing them. An abundant desquamation occurs in them.

3rd. The œdemas disappear, rapidly in some cases, slowly in others. When the œdema has vanished the skin is restored to its normal physiological condition.

4th. The tubercles become flat and soft, and disappear, sometimes by absorption, sometimes by desquamation, sometimes by suppuration, leaving scars.

5th. The ulcerations, after suppurating abundantly, become cicatrized with astonishing rapidity and leave, finally, a healthy skin.

6th. The scars of old lepromas that have formerly suppurated become pale, and tend to return to the level of the surrounding skin.

7th. Ulcerated mucous surfaces begin to heal, become paler, sensibility returns, and the tubercles disappear.

8th. The face, as the œdema and the tubercles disappear, and the pigmentation vanishes, becomes thin and loses entirely the "aspect leonine."

9th. Appetite and sleep return. Hope and contentment succeed to profound discouragement and depression.

10th. From the very first injection of serum that is given to the patient the morbid action of the bacillus of leprosy ceases, because from that day no new manifestation of the disease appears. I have treated so far fifteen cases, and in all without exception I have noted this fact, which I consider as fundamental and decisive, because it shows that the serum acts directly upon the cause of the disease. This is proved by the restoration of sensibility. The peripheral nervous system is that which is principally affected in this disease. The lesions observed depend on the disorders of nervous action. This re-established, the disease gradually disappears.—*Pacific Medical Journal*.

SIGNIFICANCE OF VAGINAL DISCHARGES.

A leucorrhœa inodorous or of mild odor, persisting during the climacteric, accompanied by increasing hæmorrhage, is suspicious, and demands investigation.

A leucorrhœa profuse, of peculiarly fetid odor, grumous, excoriating, appearing early or late during the climacteric with profuse hæmorrhage, is reasonable evidence of cancer of the cervix.

A leucorrhœa moderate in amount, ill-smelling (the peculiarly fetid odor of cancer of the cervix being absent), accompanied by hæmorrhage, suggests cancer of the corpus uteri.

A leucorrhœal discharge with hæmorrhage, containing material like the washings of meat, is said to indicate sarcoma.

A watery discharge, as a rule, occurring during menstruation, odorless or of little odor, persisting, accompanied by profuse hæmorrhage, indicates fibroids; with little or no hæmorrhage, polypi.

Profuse bloody discharges coming on gradually with declining menstruation, ceasing usually with the menstrual flow, point to fibroids.

Persistent profuse discharges of blood occurring spontaneously, arising from sudden exercise or coition, occurring, as a rule, after the menopause, indicate cancer.—*Mish, Pacific Medical Journal*, November, 1895.

ULCERS.

Chauffard has, for five or six years, employed powdered sugar in dressing leg-ulcers, dusting the wound with it and covering with oiled silk, renewing the dressing every two or three days. Cicatrization takes place rapidly and aseptically. (*Bulletin Méd.*, December 1, 1895.)

A. Schirman applies commercial kerosene—from 33 to 50 per cent.—with alcohol, with a small camel's hair brush or gauze. Valuable for atonic or indolent ulcers. (*New York Medical Journal*, December 7, 1895.)

THE THERAPEUTIC ABUSE OF OPIUM.

Dr. G. Walter Barr, of Keokuk, Iowa, contributes an article to the *Journal of the American Medical Association* for January 25th, in which he remarks that, while our knowledge of pathology and physiological action has long since passed the point of the treatment of symptoms, yet we still cling to one drug which does most of its work in relieving symptoms only. A drug, he says, which has the dynamic energy of opium must always be an equally potent agent for therapeutic good.

Chemically and physiologically opium is perhaps the most complex drug in the pharmacopœia. It contains a large number of active principles which have been isolated, and a number more that are probably present in the crude drug, although it is maintained that they are merely products of chemical manipulation. It may also contain some that have not yet been identified as chemical entities by laboratory research. It seems a little strange, says Dr. Barr, that, with the present tendency to prescribe the use of drugs uncombined with others, so many active principles should be so often prescribed at once under the title of opium. That the combination of so many principles has, by virtue of the correlation of physiological forces, a dynamic action of its own, is obvious; that this action, he says, cannot be prognosticated with much certainty is proved by the large number of cases of alleged idiosyncrasy. That opium is of great therapeutic value is maintained at the outset; that it is overrated is also contended.

When the natural polypharmacy of opium itself is avoided, says the author, its most active constituent, morphine, is nearly always resorted to. The effects of morphine upon the secretions, upon metamorphosis, and upon the disposal of waste products are exactly what is not desired in most cases of disease. Yet morphine is usually chosen to produce certain effects upon the nervous system without regard to its energetic action in other directions.

Codeine, says Dr. Barr, is being substituted for morphine to a gratifying extent, although it is not yet fully appreciated. He states that he is thoroughly satisfied that it does not produce bad habits, even in highly sensitive neurotics, and that it acts with little energy upon the digestive tract and the heart. As a somnifacient, he says, morphine has been nearly driven out of use by the products of the modern chemist, and it should be discarded also

in other fields. As a cardiac stimulant, morphine acts quickly and energetically, but the after-depression which always comes after its use may be avoided by using strychnine, nitroglycerin, caffeine, digitalis, or even atropine, in the proper dose. To use opium or morphine for a condition of nervous excitation and exalted reflexes is, in many cases, like stunning a refractory patient with a club. Valerian, hyoscyamus, and the bromides will generally give better therapeutic results of greater permanence, and with less risk.

It is in those diseases of the digestive tract which are commonest in summer, says Dr. Barr, that opium is the medium of the most harm. Close observation, he says, must drive the physician to the conclusion that very rarely indeed is opium indicated in the treatment of diarrhœa. This affection usually needs some drug which increases the excretory functions, and thus drives out of the body something which, by its presence, is producing the flux from the bowel. Opium temporarily relieves the chief symptom at once, and when its influence has subsided and the disease still persists the condition is called a relapse or a new attack.

It is certainly true, says the author, that opium has a real value therapeutically in certain inflammations, in great pain, in rare forms of diarrhœa, as a splint for the intestines, and in some other directions.—*New York Medical Record.*

LIGATION OF THE UMBILICAL CORD.

M. Pierre Budin contributes an article on this subject to the *Obstetrique* for January 15th, in which he describes a method of ligating the umbilical cord. Physicians, he says, know the danger that the existence of a voluminous cord brings to the new-born. As Wharton's gelatin becomes dry under the action of the bodily temperature the umbilical blood-vessels very soon cease to be compressed when the cord has been tied with a linen or silk thread. If

the child then makes any effort, if it cries, or if it is too tightly bandaged, a serious hæmorrhage supervenes, which is sometimes fatal.

With regard to the procedures which may prevent this hæmorrhage, says the author, the following may be mentioned: Two or three ligatures may be applied to the cord, leaving a small space between them. This method is scarcely successful, for, as the drying of Wharton's gelatin affects various parts of the cord, all the ligatures become useless at once.

Cutting of the amniotic covering at several points has been advised, pressing out a certain quantity of Wharton's gelatin, and afterward practising ligation. It has also been recommended to isolate the three umbilical blood-vessels at the free extremity, cut the cord, and tie each one separately. These two methods, says M. Budin, are good, but, as Wharton's gelatin is viscous and glutinous, they are not very easy to put into practice. M. Tarnier and others, he says, have urged the employment of a rubber thread for a ligature, as it gives excellent results. There are, however, says M. Budin, some objections to its employment. If it is not well chosen it slips on the amnion and fails to do what is required; it also undergoes some changes after being kept for a certain length of time, and it will crack when it is being used.

For several years the author has employed the following procedure: 1. With a single or double linen thread, about twenty-five or thirty centimetres in length, which has been soaked in a solution of corrosive sublimate, he makes a tight circular ligature at a distance of from two to three centimetres from the umbilicus. He then cuts the cord a centimetre above the ligature. 2. The surface of the section of the cord is held upright and the two ends of the thread are separated and one of them is placed in the groove made by the ligature and carried around the cord until it is

exactly opposite the spot where the thread is tied. Then the two ends are brought up and crossed over the surface of the section, tightly drawn and tied. This second ligature separates the blood-vessels of the umbilical cord; the vein and one artery are on one side and the second artery is on the other side. 3. Each half of the cord is then ligated in the following manner: The two ends of the thread are passed to the right and to the left, one around each half of the cord, and are crossed, tightened and knotted. 4. If the knot has been placed at one of the angles of reunion of the first and second ligatures, one of the ends is again passed around the median groove, that is, the groove of separation; the other end is passed around the cord in the outer groove, and the two ends are then crossed, tightened, and knotted.

M. Budin states that he has employed this method of ligating the umbilical cord for several years, and that he has never observed a single hæmorrhage.—*N. Y. Med Rec.*

AIROL, A NEW SUBSTITUTE FOR IODOFORM.

Haegler (*Beitr. zur klin. Chir.*, xv., 1; *Ctrbl. f. Chir.*, January 18, 1896) thus enumerates the qualities that a substitute for iodoform should possess: 1. It should be less poisonous than iodoform. 2. It should be inodorous. 3. It should not irritate the skin. 4. It should contain enough iodine, or an equally efficient constituent, and give it up under the same conditions that iodoform does.

Airol is an iodine substitution compound of dermatol (basic bismuth gallate). The author has made comparative trials of airol, dermatol, and iodoform and has satisfied himself that airol fulfills the first of these requirements. Moreover, it is free from odor and does not irritate the sound skin. Two points of its superiority to iodoform are its property of parting with a portion of its iodine in the presence of the warm fluids of the body and the fact that,

by reason of the bismuth contained in it, it is in a high degree desiccative. It is applied for the most part with a powder-blower; it is used also in the form of a ten- or twenty-per-cent. gauze, in that of a ten-per-cent. solution in collodion, and, for tuberculous affections, in that of a ten-per-cent. emulsion in a mixture of equal parts of glycerin and water.

In the course of a year the author has used airol in about two thousand cases, and has observed its decided effect on the tuberculous process, but no untoward action. In a word, he regards it as a really useful substitute for iodoform.—*N. Y. M. Rec.*

THE TREATMENT OF FURUNCLES OF THE EYELID.

Lanvole and Gygax, according to the *Therapeutische Wochenschrift* for November 24, 1895, recommend systematic bathing of the lid with one of the following mixtures:—

1. Salicylic acid..... 5 parts;
Borax..... 3 „
Distilled water.....300 „
2. Precipitated sulphur..... 3 „
Ammonium chloride..... 1 part;
Rose water..... 50 parts;
Spirit of camphor..... 20 „

In obstinate cases they recommend the daily application of the following wash, not only on the lid, but also among the lashes:—

- Spirit of camphor, } each.. 5 parts;
Precipitated sulphur, }
Lime water, }
Rose water, } each 50 „
Gum arabic 1 part.
N. Y. M. Rec.

DIGITALIS POISONING IN CHILDREN.

By HENRY KOPLIK, M.D.

There are some children who are peculiarly susceptible to the effects of a dose of any preparation of digitalis. There is no drug of greater utility in the realm of pædiatric therapy, yet not one more abused, than digitalis. Physicians seem to forget that the most gratifying effects are obtained from small doses of digitalis rather than the

larger quantities. There are children, however, who react in a peculiar way. Some preparations of digitalis have absolutely no effect on these children in small doses, yet when the larger dose is given, or a substitution made, as, for example, the powder replaced by the fluid extract, we have striking digitalis effects shown by the action of the heart. Our administration of the drug must be suspended. These children should never receive digitalis in any form. The drug is a direct cardiac poison to these subjects. The writer has had occasion to verify this, but will describe the effects in the cases of two children in one of which cases there was every reason to believe that the administration of the drug was intelligent; that is, the dose administered and causing the digitalis effects had been preceded by a tentative smaller dose.

Case I.—A boy, aged three years, under treatment in my hospital service for scarlatinal nephritis. The child had not responded to the infusion of digitalis (U. S. P.) made from the leaves. The infusion made from the fluid extract of equivalent strength was substituted for the leaves after several unsuccessful attempts to increase diuresis infusion with the ordinary.

After the dose had been carefully increased, the child, whose pulse had been 118 to 112, suddenly began to exhibit the following peculiar pulse record:—

	Pulse.	Respiration.	Temperature.
July 21: 3 p.m....	112	36	99.2°
6 „ „ ..	118	36	99.6
9 „ „ ..	100	30	99.0
22: 1 a.m....	110	32	99.6
4 „ „ ..	104	30	99.2
6 „ „ ..	100	32	99.0
9 „ „ ..	92	28	98.6
2 p.m....	76	26	98.6
5 „ „ ..	64	26	98.0
6 „ „ ..	88	...	.....
8 „ „ ..	106	...	.....
9 „ „ ..	54	26	97.8
11 „ „ ..	72	...	97.4

It will be seen that in this case the great variations in the pulse were also accompanied by a distinct drop in the number of respirations and also in the temperature, which is a rectal one. The temperature dropped fully two degrees in twenty-four hours. In this case there was no immediate appreciable increase in the amount of urine; in fact, toward 5 p.m., July 22nd, the urine became distinctly less in quantity, and necessitated other crude means subsequently, when the child had recovered from the digitalis effect. With these symptoms the use of digitalis was suspended and remedies to be mentioned hereafter were administered. The child made an excellent recovery from its nephritis without further doses of digitalis.

Case II.—This case I saw in consultation, and if it is studied I think it will be conceded that the initial dose (two drops of the fluid extract) was rather large, as the result showed.

A girl, aged six years, was suffering from an acute broncho-pneumonia in the middle lobe of the left lung. Through a prescription error of the physician in charge the child had received as an initial dose two drops of the fluid extract of digitalis four times daily, instead of two drops of the tincture.

On the fourth day of the illness, the pulse being 150 and somewhat irregular, two drops of the fluid extract of digitalis were administered every three hours.

Pulse, fifth day, 130 and more regular.

Pulse, sixth day, 120, regular.

Pulse, seventh day, a.m., 112, regular; p.m., 60, very irregular.

Pulse would show six or seven beats fairly regular, and then a pause and ten to twelve beats very irregular, then a beat or two and a pause. Use of digitalis discontinued.

Eighth day, a.m., 80, irregular and almost imperceptible at wrist; 12 m., 46; p.m., 60, irregular and markedly dicrotic.

The physician records the heart sounds tumultuous and the diastole prolonged.

Ninth day, pulse still dicrotic; had reached 100 morning and evening.

Tenth day, pulse 120 and regular.

This was a case of pneumonia, and in these cases we must consider digitalis as one of our most useful drugs. But it must be administered in exceedingly moderate doses, and then only in the form of the tincture—a mild preparation as compared with the fluid extract.

In this case the heart was irregular, beating 150 to start with, and under digitalis became regular, and then was not only irregular but actually at times tumultuous in its action. A constant feeling of nausea and also occasional vomiting were permanent symptoms; the pulse was irregular and dicrotic to the touch, showing a reduction rather in tension. It was irregular, 60 to 80 beats, when the digitalis effects began to wear off under treatment.

In this paper the writer desires to adhere strictly to clinical narrative and not enter into pharmacological ground; yet it will be noticed in Case II that, though digitalis was administered for three days in quite liberal doses, the heart continued regular and was reduced to what appeared its normal action, and only on the evening of the third day of its administration did the heart become irregular and markedly reduced in action.

After the third day the use of digitalis was discontinued by the attending physician, whose suspicions had become aroused, and in spite of this fact the heart did not return to the normal in its action, even with the aid of remedies, for fully three days, when we find a record of 120 beats, which were regular.

In Case I we find also the administration of digitalis to have had no effect until on a change of preparation the effects were shown suddenly and markedly without previous warning. The heart also took fully two days, after a suspension of the use of digitalis, to return to its normal condition.

These facts in these two cases of the sudden appearance of untoward cardiac phenomena, and their persistence for days even after the digitalis was withdrawn, seem to the writer almost incontrovertible evidence of the persisting effects of digitalis on the heart, such as is seen in the action of no other drug. The sudden onset of symptoms where none had been present for fully three days in Case II, and the substitution of the very irregular for the regular cardiac action, are strong arguments in favor of the effect on the heart corresponding much to what experimental pharmacologists call "cumulative," but which many deny as specific to digitalis. In fact, no less an authority than Horatio C. Wood, in his address before the Tenth International Medical Congress upon anæsthesia, says, speaking of digitalis and its action on the heart already compromised by chloroform: "The influence of injections of digitalis has been, in a number of experiments, very pronounced in producing a *persistent* gradual rise of arterial pressure with an increase in the size of the individual pulse rate. In several instances death was apparently averted by its injection, and I saw in one or two cases where large amounts of digitalis had been employed sudden systolic cardiac arrest, indicating that digitalis in sufficient amount is able to victoriously assert itself in opposition to chloroform. . . . I believe that in all cases of weak heart in man a full dose of digitalis before the administration of chloroform would greatly lessen the danger of cardiac collapse."

We have thus in the foregoing evidence of direct belief in a sustained action of the drug digitalis on the heart and its ganglia, and in our cases we have also clinical evidence of a regulating action of digitalis on the heart up to a certain point, beyond which irregularity and weakness result with lowered instead of high arterial tension. The reason for this action it seems might be sought in an overstimulation of the cardiac ganglia, which, responsive at

first, are subsequently paralyzed by digitalis. The return to the normal takes several days in spite of remedial measures.

Treatment.—I have studied the treatment of these cases of digitalis poisoning and am convinced that most efficacious has been the immediate removal of the drug, with absolute rest in bed. It is very difficult in the face of a very tumultuous and irregular heart to stand by and do nothing, so in Case I I used strychnine. In Case II the only efficient remedy seemed to be rectal injections of black coffee. Vomiting and constant nausea being present, the administration of champagne, caffeine, or sparteine by the stomach was not practicable. Both patients made a good recovery, and in future I should rely principally on perfect rest and subcutaneous injections of strychnine, and in aggravated cases rectal injections of coffee.—*New York Med. Rec.*

A NOTE ON THE USE OF PERMANGANATE OF POTASSIUM IN DISEASES OF THE SKIN.

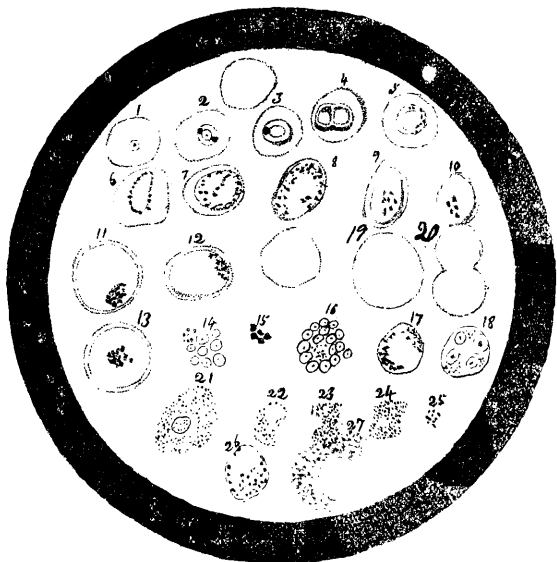
Dr. L. Duncan Bulkley, of New York, said that he had first learned from a patient concerning the value of permanganate of potassium as a remedy for itching in various skin diseases. The mode of using it was to paint over the affected surface a one or two-per-cent solution of the salt, and allow it to dry. Sometimes it was advisable to follow this with a lotion of calamine and zinc. The permanganate, of course, left a brown stain and by its oxidizing action reduced thickened patches of skin.

THE CRESCENTS IN MALARIAL FEVERS.

By GEO. W. BURLEIGH, M.D.,

Battle Creek (Michigan) Sanitarium.

The following record of microscopical examinations of the blood of a severe case of malaria will confirm the observations of investigators as to the origin of the much-disputed crescent.



1-10. Structural detail of tertian parasites as seen in "Jungle Fever" Case.

11, 12, 13, 14, and 16. Segmenting bodies.

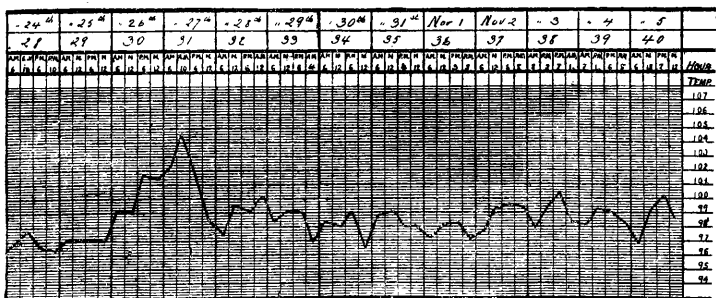
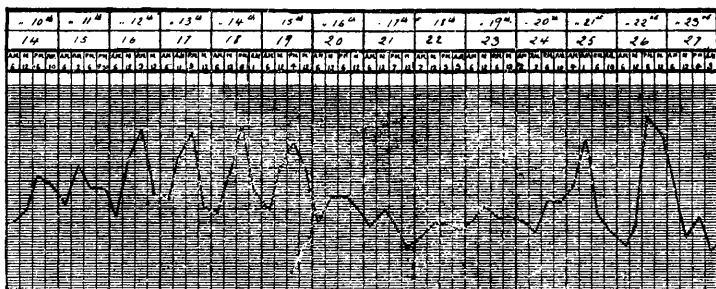
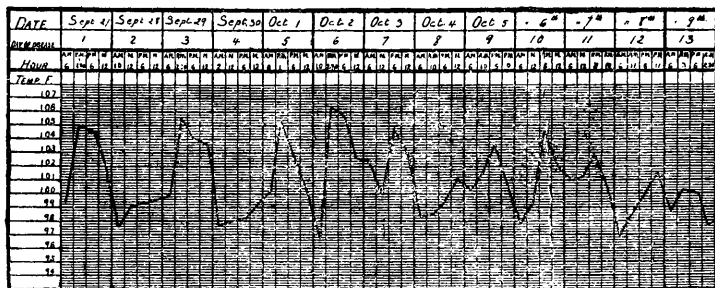
15 and 25. Clumps of free pigment.

17, 18. In 17 pigment observed to be in constant dancing movement for two minutes, when movement stopped; in one minute more four spore-like bodies appeared, while pigment arranged itself into three bunches.

22-24. Free pigmented amœboid bodies.

26. Ripe body with rod-shaped pigment.

27. Mononucleated Eosinophile cell.



Twenty-five permanent stained preparations, in addition to a large number of fresh ones, have been studied. The result of the study of this case throws much light upon the origin and mode of development of the crescent. Much credit is due to Dr. Dock, Professor of Internal Medicine and Pathology of the University of Michigan, for his valuable assistance in the study of this case.

History of Case.

Mr. —, aged twenty; home Battle Creek, Michigan; subject to malaria in childhood. Last summer, while on an excursion along the Chicago canal, south of Chicago, the patient was taken with severe diarrhea, from which he suffered for three weeks. On reaching home he was still unwell.

Sept. 25, 1894.—Chilly before noon, followed by rise of temperature.

September 27, 9 a.m.—Temperature elevated; 11 a.m., chill, followed by high temperature, profuse sweating, and severe headache.

September 28.—Temperature normal; patient up, but confined to house.

September 29, 11 a.m.—Chill, followed by sweating and headache.

Physical Examination.

Palpation.—Extreme tenderness all over abdomen. Spleen easily palpable.

Percussion.—Splenic dullness from eighth rib to edge of costal cartilage. Liver area not enlarged.

September 1.—A study of dried preparations showed many small, endoglobular pigmented, hyaline bodies. 9 a.m., temperature 99.80 F., patient complained of chilly sensations. These lasted about thirty minutes, but no true chill. After this, patient very hot and thirsty. 10 a.m. stained preparations showed small signet-shaped, endoglobular, hyaline bodies (Fig. 2). Ripe bodies with pigment bunched in center were also observed.

Diagnosis of Malaria.

October 2.—Patient admitted to the sanitarium fever ward. 10 a.m., temperature 96.80 F., cold hands and feet, severe headache, bowels constipated, pronounced tenderness over entire abdomen. 11.45 a.m., temperature 100.60 F. Blood examination showed a large endoglobular, ameboid body with pigment in motion. The pigment was in the pseudopodia (Fig. 7). 2.00 p.m., temperature 106.20 F., stools black, food passed undigested. Bleeding at nose in evening. Constant pain in bowels and back. Patient had anxious look. Cheeks flushed. Sputa tenacious and of a rusty color. A constant hacking cough, with pain in region of heart.

October 4.—Spleen one finger's breadth below costal margin, and tender. Pulse full. Tongue furred in centre, red at tip, and tremulous. Dejections watery, dark color, contained particles of undigested food. Mucous membranes pale.

October 5.—Patient had cachectic look, complained of constant pain in left side under the ribs.

October 7.—For first time crescents were found in stained preparations. There were from five to twenty in each specimen in different degrees of development (Figs. 13-17). From this time till the 25th, crescents were seen in every examination, and pigmented white corpuscles in stained and unstained preparations. The number of mononuclear cells (large epithelial cells, or large lymphocytes) was much increased. Pigment granules were in several large lymphocytes (Fig. 20). Some free pigment inside or lying upon red blood cells was observed in one preparation (Fig. 21).

October 7-11.—Temperature very irregular (see Temperature Chart).

October 12-15.—A regular curve is observed. October 12 a megaloblast was noticed (Fig. 19). Oct 15, as the temperature fell, 20 gr. quinine sulphate were admi-

nistered. Patient objected to quinine previously. Had taken no quinine previous to admittance.

October 16-20.—Crescents in each examination at different intervals.

October 19.—Patient out of bed, good appetite.

October 24.—Large number of free bodies, a typical flagellated body seen (Fig. 18).

October 25.—Many small, endoglobular, non-pigmented, ameboid, hyaline bodies were present, also crescents.

October 26.—Patient left fever ward. Still a small number of pigmented endoglobular bodies and crescents.

October 27.—The patient was found at home in a critical condition; bowels badly constipated, and symptoms of pneumonia. Patient unable to lie down, due to severe pain in splenic region. Respiration short and rapid. As temperature fell, 20 gr. quinine sulphate given.

October 29.—Patient still unable to lie down. Feet and legs showed pronounced edema. Heart displaced to right, apex-beat heard most distinctly one inch to right of left nipple in the fifth interspace. Pulse weak but not rapid, patient unable to speak above a whisper. Abdomen tense, splenic region very tender, and bulging of ribs on right side. Spleen hard, two finger breadths below ribs.

Examination of blood showed 2980 red blood corpuscles to the cm.

Hemoglobin showed percentage to be 10 (Henocque).

Endoglobular, pigmented forms; few flagellated bodies; 20 gr. quinine given.

October 30.—Patient improving, able to lie down, slept well, appetite improving, edema disappearing. Heart returning to normal position, abdomen becoming less tense; 20 gr. quinine given.

November 1.—Splenic region less tender, spleen receding.

November 2.—Patient complains of pain in splenic region; 20 gr. quinine given.

November 3.—Palpation of spleen shows it to be tender and still hard; 20 gr. quinine given.

November 4.—Appetite improving, still severe pain in left side.

November 5.—Examination of blood showed that, notwithstanding the large amount of quinine given, there were still many free bodies in each field, with active movements, a rapid, rotary, progressive, and zigzag course. Eight to ten small free bodies were seen in some fields. A few endoglobular forms still present.

November 6.—Several ripe bodies present; 20 gr. quinine given.

November 7-11.—Patient still has pain in side, but improving rapidly.

November 13-26.—Blood examination showed but few endoglobular forms; 20 gr. quinine given on 13th, 20th, and 26th.

November 26.—Patient improving rapidly, and left off treatment.

November 30.—Patient in robust health, hemoglobin normal. Color good, gained twenty pounds in three weeks.

October, 1895.—Patient has been in excellent health up to present time; no return of fever.

The notes of this case are given in full for their clinical value. Attention is now called to the much-disputed crescents.

Thayer and Hewetson of Baltimore, in their work on malarial fevers,* have given a full account of the different views held in regard to the nature and significance of the crescents. The whole is summed up as follows:—

"Many observers believe that the double outline of the crescent is due to the presence of a membrane. Antolisei suggests that this is rather a condensation of the external part of the body, and not a true membrane. Laveran believes that the cres-

* "The Malarial Fevers of Baltimore," by William Sydney Thayer, M.D., and John Hewetson, M.D., Baltimore, Md., page 171.

cents represent an encysted form of the parasite; that they are active, indeed, usually virulent parasites, resisting more than the others the action of quinine; that while their mode of reproduction is not known, their presence in the blood is always a menace of a relapse; that frequently, without the presence of other forms, they may cause active febrile symptoms."

"Canalis, Antolisei, Angelini, and Golgi believe that these represent a more resistant form of the aestivo-autumnal organism, a form which has a cycle of development longer than that of the smaller variety, from which, however, they are directly derived. They believe that sporulation occurs in a manner similar to that in the case of the quartan parasite; that, in the blood containing this form of organism alone, the paroxysms occur at long intervals,—ten, twelve, fourteen days, and even longer. Grassi, Feletti, and Sacharoff believe that the crescent represents a separate and distinct type of the parasite which they call *Laverania*. The former assert, also, that they have observed segmenting forms. Bignami, Bastianelli, Marchiafava, and Celli believe that they are degenerate forms of the parasite.

"Mannaberg believes that they are encysted forms following a pseudo-conjugation of two individuals; that they can again segment into two bodies similar to the original. He does not believe that they are degenerate forms, though he has been unable to follow out their further development. Manson believes that the crescents are forms 'intended to carry on the life of the species outside the human body.'

"Coronado believes that the crescentic bodies are empty cysts from which flagella have escaped. All agree that the crescents do not appear at the beginning of the infection. Bastianelli, Bignami, Antolisei and Angelini, who have more carefully followed out their development, have shown clearly that they appear generally in the spleen from the fifth to the eighth day, and

in the blood from the seventh day on.

"We have noted as well as the other observers that in the fresh specimen the crescent has a somewhat refractive protoplasm, while the border shows a greater refraction, similar to that which, as Antolisei states, one observes about the border of the red corpuscle. Whether this has the significance of an actual membrane, or whether it is simply the indication of a slight cuticular thickening of the outer part of the body, we do not feel clear, though we incline rather to the latter view.

"We have never noted that this more refractive border or double outline showed the color of hemoglobin, though, during a considerable part of its existence, the body is probably surrounded by some corpuscular substance. In stained specimens we have never seen any tendency on the part of this outer border to take up eosin or acid colouring matters, as is the wont of bodies containing hemoglobin.

"We have not, however, carried out studies of stained specimens with regard to the finer structure of the parasite, with sufficient system to speak positively concerning Mannaberg's observations. We can only say, from what we have seen, that the idea that the crescent is formed as a result of conjugation appears to us to lack confirmation. From a considerable experience in the study of fresh specimens, we can say that while the presence of two parasites in one corpuscle is occasionally seen, it is a rather rare occurrence; that while we have seen two parasites lying side by side, such cases have been extremely rare.

"On the other hand, we have been able, again and again, to trace every step in the formation of crescents from the bodies with pigment gathered in the center, such as one occasionally sees at the time of the paroxysm, and we feel that there can be little doubt that the crescent develops from these bodies."

The significance of the double outline is, as yet, only a matter of conjecture by all,

except a few, who have written on the subject. Antolisei and Angelini (1890) speak of it as a membrane similar to that observed around the red blood corpuscle. Dock, in the *Medical News* of June 6, 1895, in speaking of the development of crescents, says:—

"The supposed developing crescents were found in considerable number. These were oval or thick, spindle-shaped bodies, with pigments in short rods scattered through them; usually they were in the middle of the affected corpuscles, with ends reaching the opposite sides, but in some cases they were on one side, and then showed a curved slope, corresponding to that of the corpuscle."

Korolko (1892) believes that the double outline is a part of the remaining red blood corpuscle, and states that it may be stained with eosin.

After a careful study of the crescents, having made over fifty drawings from stained preparations, I find that the outer border as well as the double contour line in well-prepared specimens, take up eosin, or acid coloring matter (see Fig. 22). I would call special attention to this undeveloped crescent, which shows beyond a doubt the origin of the crescent. It is hard to see how any one can call them "nothing more or less than degenerate red blood corpuscles."

In no case have I found the crescent lying upon the red blood corpuscles, with overlapping horns, as pictured by Lavanar. In studying the crescents, I have seen nothing which would tend to confirm the position held by Mannaberg as to the origin of the crescent, nor have the segmentations of the crescents been observed in this case.

Conclusions.

1. Large lymphocytes are phagocytes as well as the polynucleated cells, seeing that these take up pigment, etc.

2. The origin of the crescent is the same as other ripe plasmodia, beginning as small

hyaline bodies, and continuing to grow at the expense of the red blood cell, and then being set free.

3. The double outline is stained by eosin or acid colouring matter, as are bodies containing hemoglobin.

CLEANING RUSTY INSTRUMENTS.

Brodie gives the following as an effective method of cleaning rusty instruments: Immerse in a solution of chloride of tin in distilled water, allowing to remain over night, then rub dry with chamois after rinsing with running water. They will be of a silvery brightness.—*British Journal of Dental Science*.

STRYCHNINE POISONING.

When strychnine has been taken by mistake, or purposely, its effects may be counteracted by teaspoonful doses of tincture of Cannabis Indica, given every five to ten minutes until six or eight doses have been taken.—*Prescription*.

CHLORINE IN TYPHOID FEVER.

Wilcox concludes an article on this subject in the *American Journal of the Medical Sciences* for September, 1895, as follows:—

The cases above cited are average ones and illustrate very well the effect of the administration of chlorine.

In the treatment of typhoid fever:

Chlorine can be safely administered until complete disinfection of the alimentary canal is obtained.

Under its use the tongue becomes cleaner, the appetite and digestion better, fever lower, and the stools devoid of odor.

The general strength, the intellectual processes, and the nervous conditions improve.

The disease is shortened in duration, and usually proceeds to rapid and complete recovery.

THE EFFICACY OF TOUCHING INFECTED
CORNEAL ULCERS WITH THE
TINCTURE OF IODINE.

Van den Bergh (*La Presse Méd. Belge*, August 11, 1895) wishes to add his testimony to the efficiency of this method, and reports a case in which, after eight days of treatment, a large ulcer was completely cicatrized, and one month later only a slight trace of the ulcer could be seen, which tended to disappear. The vision was good. The treatment consisted in touching the ulcer twice daily with tincture of iodine by means of a little cotton on the smooth end of a Bowman's probe. The touching was done carefully over the entire surface of the ulcer to extreme limits. This was followed by atropine and a compressive bandage, with quinine and morphine internally for the headache.

In these cases the author believes that this treatment is the most simple and certain, and is safe in the hands of all practitioners, even those who are not specialists; it is easy of application and perfectly safe and harmless. If by chance the iodine gets beyond the limits of the ulcer, there is a slight desquamation of the epithelium, which heals, leaving no trace behind. If the cotton is too wet, and some of the iodine passes into the conjunctival cul-de-sac, the patient experiences a sharp pain, which disappears after a washing with water and the instillation of cocaine. The author generally avoids the use of cocaine in those cases where the cornea is involved, on account of its well-known destructive action upon the keratidian epithelium.

A SIMPLE METHOD TO INSURE NORMAL INVOLUTION AFTER LABOR OR ABORTION,
AND TO PREVENT CHRONIC ENDOMETRITIS, RELAXATION OF LIGAMENTS, AND DISPLACEMENTS.

Gill Wylie, in the *New York Medical Record* for September 4, 1895, writes in an interesting manner on this topic.

Many years ago he discovered that if boroglyceride (not glycerite or a simple mixture of boracic acid and glycerin) was combined with pure glycerin in solution ten to twenty per cent., we could saturate cotton pledgets with it and apply in the vagina with the best possible results, that there would be no ferment of the glycerin and secretions to cause irritation, etc., and that it would excite an immense amount of secretion from the uterine and vaginal glands when left in for twenty-four hours. The author advocated the use of these pledgets twice or three times a week in the vagina in all cases where it was desired to improve the pelvic circulation, and thus reduce the size of the uterus and relieve the over-congested tissues in all parts of the pelvis. He has had especially good results in all cases of subinvolution, after curetting and draining the uterine cavity; and found that this treatment was much more rapid and certain than the prevailing plan then in use and now so much practised, of rest in bed, hot vaginal douches, etc. Besides, by making the roll of absorbent cotton firm, and from one and three-quarters to two and a half inches long and from one to one and a half inches in diameter, that a sagging and retroverted uterus could be readily held up in a more natural and better manner than by a hard pessary. The active circulation caused by the boro-glyceride and glycerin mixture contracted the vaginal tissues so that the cotton pledgets remained in place, and this contracted and firm condition of the tissues would continue for a day or so in most cases, thus enabling the patient to go about without trouble for twenty-four to forty-eight hours after removal of the cotton, and give time to cleanse away the coagulated mucus, etc., from the vagina.

For fully fifteen years the writer has practised and taught the use of this simple treatment in all cases after abortions, especially when there was any kind of inflammation or hardening of the uterus

complicating the abortion, and in all cases after labor where one desires to insure a return of the uterus to its normal size and position in the pelvis. In many cases among the well-to-do class, in our cities at least, there is a marked tendency in women to have more or less trouble after labor. The general health is not good or the uterus is not well developed and the cervix is torn, and on account of the relaxed and bad general health or disease of the cervix, it fails to heal, and subinvolution, chronic endometritis and displacements follow.

Many years ago the author discovered that many cases of melancholia and extreme nervousness and sterility are due to chronic subinvolution or enlargement of the uterus, and that when we cured the subinvolution or the local disease or condition the melancholia in many cases would disappear as if by magic. Some of these cases were classed as insane and were considered incurable, but were entirely relieved of all actual symptoms by reducing the uterus to its normal size and curing any existing local disease. I do not mean to say that melancholia or tendency to disturbed mental balance is eradicated, but that enlargement of the uterus and associated local disease will in some women—not all—cause or excite melancholia, and that a cure of the local disease will cure the abnormal mental disturbance called melancholia. This experience led him to use the boroglyceride cotton pledgets to prevent subinvolution, especially in very nervous women who had had melancholia or other forms of mental disturbance before pregnancy. About the tenth day after labor he examines the woman locally. If the uterus is large and crowded down in the pelvis, or if the secretions are still bloody or abnormal, or if he has any good reasons from previous knowledge of the case to believe that relaxation, subinvolution, displacements, etc., are liable to fol-

low, he puts the patient in Sims's position on her left side, pushes the uterus well up out of the pelvis, and applies a suitable-sized and soft, but firm enough to keep in shape, boroglyceride cotton pledget in the vagina. It is so placed under the cervix uteri that the uterus cannot sink down in the pelvis nor fall backward. This is left in place twenty-four hours, then removed by the linen string tied to the proximal end. A vaginal douche of solution of boracic acid is given. Two days later the same treatment is applied, and repeated twice a week till the uterus is normal in size and position, which usually takes six weeks. At the end of two months after labor, if there is any laceration of the cervix, complicated by follicular disease, the diseased tissue is cut away and the cervix sewed up or amputated, with healthy mucous membrane. When amputation is done the flaps to line the canal are made from the anterior and posterior parts of the cervix. If the perineum is torn, especially the inner portion that supports the lower end of the rectum, it is sewed up also. By the simple application of the boroglyceride the patient is able to get out at the end of two weeks without injury, and is dismissed perfectly cured at the end of six or eight weeks.

RESECTION OF THE PENILE URETHRA.

Pousson (*Annales des Maladies des Organes Génito-Urinaires*, August, 1895) has twice resected strictures of the penile urethra, and has collected in all eight cases of this operation. He advises controlling hemorrhage by an elastic ligature placed at the base of the penis. This ligature should be removed before the skin is sutured, that no bleeding vessel may cause extravasation and interfere with healing. The penis is incised in the middle line of the spongy body. Resection of the urethra should be complete and circumferential. The resection, of course, shortens the urethra; un-

doubtedly for the first few months there will be some incurvation, but the natural elasticity of this tube is so great that this shortly disappears. More than an inch has been resected. The entire cicatricial node should be removed by careful dissection. After resection the two ends are united by catgut sutures introduced by fine curved needles. These sutures should not penetrate the mucous coat, since thus their incrustation with the urinary salts is avoided, as is also infection of the wound by imbibition of the urine. Three or four sutures are sufficient to assure the contact of the divided urethral segment. After operation a permanent catheter is placed, and this is the means of treatment which should always be adopted. A soft red rubber catheter is the best. It should be of calibre No. 16 to 18, and is used only for the purpose of draining the bladder and keeping the line of sutures dry. This catheter should be left in place four or five days. Union is prompt. As to the ultimate results there is no recurrence. There was evidently contraction in some of the cases thus operated on. In one case of Guyon's, examined two years after intervention, a full-sized sound could be passed and no induration could be felt. Complete erections were ultimately obtained. The indications for this treatment are, of course, found in those strictures not amenable to dilatation or cutting.

CHRONIC PHARYNGITIS.

R̄ Iodine, 6 grains.
Potassium iodide, 12 grains.
Menthol, 1 drachm.
Glycerin, 1 drachm.

Apply with a camel-hair brush twice or thrice daily.—*Clinical Record.*

BOILING WATER TREATMENT OF SURGICAL TUBERCULOSIS.

The treatment of tubercular diseases by the above method was first announced by

Jeannel in 1893. Since then he has had occasion to apply this method in a series of cases of surgical tubercular diseases, comprising ulcerations and abscess of soft parts, as well as lesions of the joints. This method is as follows: The tubercular focus and the fistulous canals are opened, and in tubercular affection of the joints, typical resection is first performed. All caseous products and granulations are carefully removed with the curette, the cavity is sponged out and the blood completely staunched. Salt water has been kept boiling in a can provided with a long spout to which is adapted a long rubber tube with a pointed stop-cock at its free end. The tubercular cavity is then filled with boiling water. The cavity is then sponged dry to be refilled repeatedly until the surface has been sufficiently cauterized. The advantages claimed for this method over dry cauterization are rapid cicatrization, absence of suppuration, and that it softens, disintegrates and sterilizes to a greater depth and more thoroughly than the dry cautery.

CHLOROFORM DANGEROUS TO MEAT-EATERS.

The geographical distribution of accidental deaths from chloroform is peculiar, according to Dr. Lauder Brunton, as reported by *The British Medical Journal* for July 7th. Practitioners favor chloroform in the southern United States, in Egypt and in India, while in London and the northern United States they dislike it. There has been a marked increase in the deaths under chloroform administered during the last few years in Great Britain. During these years the feeding of the population has been changed to an enormous extent by the increase in meat-eating due to the importation of low-priced refrigerated meats. Edinburgh has been an exception to the rule that the physicians of the colder cities do not prefer chloroform, but latterly the deaths from its use in that city have

been more frequent, and gout has become less rare, both of which results may be due to the much increased use of butcher's meat. A Russian observer has found that if the urine contains alkaloids trouble may be expected from the administration of chloroform. This may explain why the cases which give the most trouble usually occur in strong, healthy men, who have been on a full diet and are thus likely to have stored in their tissues a quantity of such alkaloidal products as result from meat eating. These substances, accumulating in the blood during anæsthesia, may act as a poison to cause heart failure, while chloroform, administered in the ordinary manner, tends to paralyze the respiratory centre before the heart is weakened.—*N. Y. Medical Journal.*

LEPROSY, ITS DIAGNOSIS AND TREATMENT.

Dr. Prince A. Morrow, the well-known authority on diseases of the skin, in a recent address, summarizes his conclusions on leprosy, as follows:—

1. From the standpoint of scientific therapeutics a clear conception of the pathogenesis and pathological anatomy of leprosy is an essential condition in formulating the principles of rational treatment.

2. It is now generally conceded that Hansen's bacillus is the active, efficient cause of leprosy, and that the presence of the bacilli in the tissues sets up either directly, or indirectly through their toxins, the vast array of organic changes and functional disorders peculiar to the disease.

3. There is no substance known to science which, introduced into the body, is capable of destroying the bacilli without destroying the living cells which contain them.

4. Furthermore, from the nature of the pathological changes and the position of the bacilli in the deeper tissues it is evident that no germicidal agent can be brought into direct contact with the pathogenetic

organisms, and hence all treatment which has for its object the destruction of the bacilli is impossible of application.

5. The treatment of leprosy by injections of tuberculin has been disappointing in its results. Experiment has shown that the action of tuberculin is positively pernicious in setting free the bacilli in the tissues and determining the development of new foci of the disease.

6. The treatment of leprosy is essentially empirical; whether, as has been claimed, certain remedies act by virtue of sterilizing properties upon the living tissues, rendering them unsuitable to the growth and multiplication of the bacilli, cannot be determined.

7. The more or less rapid development of leprosy depends upon the resistance of the tissues to the invasions of the bacilli. In exceptional but well authenticated cases this capacity of resistance is sufficient to dominate and destroy the pathogenetic microbes, as shown by the observation of abortive cases in which indubitable signs of the disease definitely disappear and never recur.

8. This capacity of resistance may be strengthened by change of climate, improved habits of living, and measures calculated to build up and maintain the general health at the highest standard.

9. Observation shows that the removal of a leper from an infected district to a more favored climate exerts a marked modification on the course of the disease; there is, for a time, at least, an arrest or retrogression of the symptoms. This lull in the manifestations is, as a rule, disappointing in its duration. Of the one hundred and sixty Norwegian lepers who have emigrated to this country there is no record of a single definite cure.

10. A dry, moderately cool, mountain atmosphere is most favorable in its influence upon the disease. A hot moist climate, or a damp cold climate, are both unfavorable.

11. A nutritious diet of fresh meat and vegetables, warm clothing, exercise in the open air, freedom from exposure to damp and cold, are important elements in the hygienic course of treatment.

12. The care of the skin by frequent hot baths, massage, with inunctions of oil, etc., should receive as much attention as the constitutional treatment.

13. The special remedies which clinical experience would indicate to be of the most value are chaulmoogra oil, gurjun oil, arsenic and certain agents of the strychnos family; all are, however, more or less disappointing in their results.

14. All observers agree that in advanced cases, where general dissemination of the bacilli has taken place, curative treatment is absolutely futile. The most favorable conditions are that treatment be instituted early, and that it be prosecuted actively and energetically during a prolonged period.

15. The surgical treatment of leprous sores, necrosed bones, perforating ulcers, the excision of tubercles, amputation of the members, tracheotomy, various delicate operations about the eyes, nerve-stretching for the relief of pain, the removal of threatening complications are of the most signal benefit.

16. Finally, we may conclude that while medical science holds out no definite promise of cure to the leper its resources are sufficient to arrest or retard progress of his disease, to promote his comfort, and to prolong his life.

— OINTMENT FOR CRUSHED LIMB.

When a limb is crushed and surgical treatment has for some reason to be deferred, the following ointment is recommended for "embalming" the injured part. It should be spread on aseptic gauze and covered with cotton-wool:—

R Salol, dr. iii;
Resorcin, dr. iii;
Antipyrin, dr. iii;
Acid. boric., dr. v;
Iodoform, gr. xv;
Vaselini, ad oz. vi.

—*Practitioner*, No. 323, Vol. liv., No. 5.

MORNING DIARRHŒA.

In the *Medical Record* of May 11, 1895, Delafield states that he treats this condition as follows:—

If the disease occurs in women, before beginning any medical treatment it is important to have cured any lacerations of the perineum or the cervix, displacements of the uterus, or disease of the Fallopian tubes which may exist. The methods of treatment which are ordinarily employed are:—

1. *Change of Climate.*—The effects of this are often very satisfactory, and in the milder cases very prompt. A person who has a morning diarrhœa for months may leave New York in the afternoon and the next morning begin to have formed passages. Unfortunately a return to the city may be followed by a return of the diarrhœa. In the more severe cases a prolonged residence in a dry inland climate may effect a cure.

2. *Diet.*—The plans of diet usually followed are: (a) an exclusive diet of milk; (b) an exclusive diet of beef and hot water; (c) a diet composed of milk and meat alone; (d) a diet from which only the sugars and starches are excluded.

As regards the effects of treatment by diet we find that some patients are cured, some are benefited for a time, in some there is no effect at all, some get worse.

3. In a small number of cases the diarrhœa can be cured by daily lavage of the stomach.

4. *Drugs.*—As a rule the number of the passages can be checked for a moderate length of time by the preparations of opium. The improvement only lasts while the opium is taken, and it is evident that the

use of this drug ought not to be continued for any length of time. The subnitrate of bismuth, the subgallate of bismuth, and β -naphtol bismuth are said to give good results. The writer has not been very fortunate with them. Salol and naphthalin answer well in some cases, but have absolutely no effect in others. Arsenic, quinine, ipecac, belladonna and cannabis are all very useful drugs. The drug which has given him the best results is castor oil, in doses of from 5 to 10 drops.

DISASTROUS RESULTS FOLLOWING WHITE-
HEAD'S OPERATION FOR PILES.

Andrews (*Columbus Medical Journal*, Vol. xv., No. 3, 1895) has secured the opinion of a large number of surgeons, both in this country and Europe, in regard to the disastrous results that are apt to follow Whitehead's operation. The replies include two hundred cases, of which the following is a summary:—

Loss of the special sense by which the patient should be warned of a coming evacuation and enabled to prepare for it, eight cases; incontinence of flatus and fæces, twenty-three cases; paralysis of the sphincter, four cases; chronic inflammation of the rectum, one case; failure of union of the wound by first intention, with retraction of the edges of the wound forming a contracting tubular ulcer with stricture, nine cases; other ulcers, two cases; irritable and painful anus, twelve cases; eversion of the mucous membrane, four cases; neuralgia of the pelvis and inferior extremities, two cases; general neurasthenia, one case; fatal peritonitis, one case; non-fatal septic results, five cases; fistula in ano, one case; reported as having bad results without accurate description, one hundred and twenty-seven cases; total, two hundred.

THE EFFECT OF PERMANGANATE OF POTASSIUM
IN OPIUM-POISONING.*

BY LEEDOM SHARP, LL.B, M.D.

The difference of opinion held by the medical profession regarding the value of permanganate of potassium in opium poisoning, together with a review of the cases reported, have led me to undertake a series of experiments, with the object of throwing some further light on the subject.

Clinical Data.—The observations of Dr. William Moor† brought prominently before the profession the question whether or not permanganate of potassium is an antidote in cases of opium-poisoning, by claiming that there are certain properties in the permanganate that are chemically antidotal.

He performed a series of experiments with the permanganate of potassium, morphine, and egg albumin, and from the results obtained concluded that one grain of the permanganate will destroy one grain of morphine, even in the presence of other organic matter. He therefore inferred that there was such an affinity between the two drugs that, if the permanganate is brought into contact with organic matter containing morphine, it will act on the morphine first.

He was, therefore, induced to resort to self-experimentation, believing that the oxidizing power‡ of the permanganate would decompose the morphine in the stomach, and thus render the poison inert. He consequently took three grains of morphine by the mouth, and followed it immediately by four grains of the permanganate, with no unpleasant results. The result of his work seems to have established in the minds of many the fact that permanganate is an antidote to opium if given by the stomach.

* A thesis receiving honorable mention at the commencement of the graduating class of 1895 at the University of Pennsylvania.

† *New York Medical Record*, 1894, Vol. i., pp. 200, 442, 642.

‡ See the effect of the oxidizing power of peroxide of hydrogen.

As morphine, when brought in direct contact with the permanganate, was found to be inert, the question arose as to how far, if at all, the permanganate would act if exhibited in a distant part of the body from that in which the poison was administered.

Schlagdenhauffen and Reeb, as a result of their experiments on frogs, claimed prior to Moor's studies,* when investigating with another drug, that if permanganate was injected separately it would modify the action.

Dr. Moor was of the opinion that the permanganate was of value, even after the poison had been absorbed, if given by the stomach. He based his opinion on the investigation of Professor Hitz of Halle, who maintained that a part of the opium absorbed returns to and is eliminated in the stomach, where it would be acted upon by the permanganate.

If this be true, and it seems to have the corroboration of Marne,† Alt,‡ Trauber,§ and others, it suggests itself to me that traces of the morphine might be found in the feces by the proper tests. This of itself would be of value in cases of suspected morphine habit, which iniquity the patients are so apt to deny.

Again, if the morphine is excreted by the cells of the stomach, it must be a continuous action, and therefore a frequent washing out of the stomach must of itself be an advisable treatment in opium-poisoning. The occasional washing out of the stomach may account for the improvement in some of the cases reported.

Dr. Moor and also some physicians in St. Louis about this time made some experiments on dogs and rabbits, and gave them, by the mouth, doses as large as ten grains of morphine, administering permanganate, in varying strengths of solution, as an anti-

dote. The results were the complete recovery of the animals. This is not strange, when it is considered that in no instance was there a fatal dose exhibited.

Dr. Rector followed their steps* by conducting some experiments on dogs with morphine and permanganate with the same happy results, in no case having given a fatal dose.

Dr. Andrews,† however, in a course of investigations showed beyond a doubt that in all the test cases of Dr. Moor and the others (on dogs and rabbits with morphine) the dose given could not have been fatal in any case. This was later demonstrated to be the case by Professor Wood in his experiments.‡

Mr. Harding followed these investigations with a paper,§ in which he brings to bear chemical facts to prove that the behavior of permanganate when brought in contact with organic matter is such that it is unreasonable to believe that it could have any antidotal properties.

Thus the opinions stood before the reports of the practical use of the drug appeared. Since then there have been quite a number of cases described, from which the following are taken to illustrate the uses, effects and results of the drug when administered as an antidote.

Cases.—Dr. H. D. Walker reports a case|| of a woman, an habitué to the morphine habit, but reformed, who was accustomed but a few months previous to take thirty grains of morphine per diem. She took a dose of 45 grains, and was subjected to the approved routine treatment, and some hours after taking the poison showed improvement on the exhibition of 15 grains of the permanganate.

It is a question whether in this case, the patient being an old habitué to morphine, she would not have recovered under the

* *Journal de Pharmacie*, October, 1893.

† *Deutsche Med. Wochenschr.*, 1893, No. 4.

‡ *Berl. Klin. Wochenschr.*, 1899, No. 25.

§ *Arch. f. Exp. Path. u. Pharmacol.*, Bd. xxvii., S. 336.

* *New York Medical Record*, 1894, vol. i., p. 460.

† *Ibid.*, vol. i., p. 316.

‡ *University Magazine*, vol. vi., p. 747 (Philadelphia.)

§ *New York Medical Record*, vol. i., p. 459.

|| *Medical News*, vol. i., p. 380 (Philadelphia).

old treatment. Certainly no extraordinary antidotal qualities can be claimed here, yet there seems to have been some beneficial effect following the administration of the permanganate.

Drs. Moreland and Grigg report a case* of a man who took $2\frac{1}{2}$ ounces of laudanum of unknown strength, at 7.30 p.m., and was treated by another physician until sent to the hospital at 10 p.m. His condition was as follows: respirations four per minute; pulse weak; reflexes gone; pin-point pupils; bladder distended; profound coma.† The treatment he received was, besides that by the previous physician, artificial respiration, atropine, flagellation and 12 drachms of a one-half saturated solution of permanganate (estimated) hypodermically. Recovery resulted in six hours and forty-five minutes.

This is one of the best of the reported cases, yet the previous treatment by another physician is wholly omitted. The number of respirations, the pulse and the temperature are wholly ignored from the time of his admission until almost complete recovery.

The permanganate seems to have been followed by a marked improvement after its injection; but when we consider the vigorous treatment received in addition to the permanganate, it can scarcely be claimed that the drug evidenced any remarkable properties; the same improvement frequently results as conspicuously under the old treatment.

Two other cases are reported by them, which, owing to the lack of detail, are not germane to this paper.

Dr. Pyle reports a series of cases,‡ none of which seems in any way to prove the alleged antidotal properties of the permanganate.

In the first case routine treatment was given in addition to the permanganate. Here the drug surely had an opportunity

to show its value, the patient being under treatment and alive for seven hours, yet death resulted.

The second case (where the dose was unknown, had the stomach washed out thirty minutes after taking the narcotic, atropine being administered at the same time) received, together with a solution of permanganate, the most vigorous and approved treatment; recovery of reflexes and consciousness followed in one hour and twelve minutes, and the patient was discharged the next day.

The recovery was so rapid, the treatment so vigorous, and the report so meagre regarding pulse, respirations, temperature, and the effect following the administration of the permanganate, that it is impossible to determine whether the permanganate was of value or not.

The third case (the dose being $\frac{1}{2}$ ounce of laudanum) was under treatment within one hour after receiving the drug. The treatment was the approved routine methods, together with a solution of permanganate per the stomach and hypodermically. Recovery in fifteen minutes.

The recovery was so extremely rapid, the fatal dose so small, the respirations never below eight per minute, the reflexes never lost, and the report so insufficient that there is no value to be attached to the case.

Regarding the fourth case, the dose being but two drachms of laudanum, the report was so unsatisfactory and the treatment so slight that it would have been quite as well not to have reported it.

Dr. J. C. Crossland's patient,* by whom two ounces of laudanum are supposed to have been invested, was found in a comatose condition with symptoms of opium-poisoning. Treatment began at 8.30 p.m., about one hour after the dose was supposed to have been taken. There were given atropine, electricity and permanganate by the stomach; the respirations

* *Medical News*, vol. i., p. 491.

† Description supplemented in *University Magazine*, vol. vi., p. 107.

‡ *Medical News*, vol. i., p. 514 (Philadelphia).

* *Cincinnati Lancet-Clinic*, new series, vol. xxxii., p. 651.

and pulse improved and the pupils dilated. At 9.30 p.m. atropine was again administered; the respirations and pulse were slightly better and the pupils normal. At 10.30 (no permanganate having been given since 9.10) the condition became alarming, and nitro-glycerin, atropine and electricity were given. At eleven o'clock the patient regained consciousness and gradually recovered.

In this case it is impossible to say with certainty whether or not the permanganate was of value.

The doctor mentions another case in which four grains of permanganate had no effect after the ingestion of an ounce of laudanum.

Dr. J. S. Carpenter reports a case* of peculiar idiosyncrasy, where the patient exhibited symptoms of morphine-poisoning, following an injection of morphine and atropine, given in treatment. An hour and a quarter after the administration of the drug the doctor arrived, and immediately adopted the "established treatment," giving atropine freely in doses as high as $\frac{1}{8}$ grain; artificial respiration was employed continuously, and there were given 37 drops of a saturated solution of permanganate in three doses hypodermically (about 3 grains.) Some improvement in respirations followed the second dose. Recovery in two hours and fifty-five minutes.

Dr. C. Even Johnson's case† where permanganate was given, together with the old treatment, simply states that "decided improvement" followed each injection without showing what that improvement was, whether number or depth of respirations, pulse, reflexes, or pupils, and therefore can carry no weight as to the value of the drug. It is a fair sample of the disappointment experienced in reviewing many of these cases, and reliance in the physician's report must be shaken by the carelessness of the observations.

Dr. C. H. Callender's report of his case* is by far the most satisfactory reviewed.† It shows that following the first injection of the permanganate and the subsequent injections there was a decided improvement in respirations, increasing in number from 8 to 12, to 16 and 18 and in the pulse from 46 to 54, 68, and to normal. In this case 2 ounces of laudanum had been taken.

This is a unique case, as it reports no other treatment but that of walking the patient. In order to satisfy myself that no other treatment was given I communicated with Dr. Callender on the subject; and I have received a reply assuring me that owing to an accident to his carriage, in which his medicine case was left, he had neither atropine, strychnine, nor caffeine, or he should have used them; and that the only other drug used in the case was the permanganate, and the only other treatment given was that of walking the patient, and prior to his arrival the rubbing of the patient with whiskey.

This, then, is the only case I have found where permanganate alone was relied upon in a case of opium-poisoning, and is of value as to the action of the drug.

Dr. J. I. Darby reports a case,‡ with considerable detail, of a man who took 12 grains of morphine about 12.30 a.m., he having a few times before taken $\frac{1}{4}$ grain of morphine for insomnia. At six o'clock, when the doctor arrived, he was aroused sufficiently to take a cupful of strong hot coffee and a 3-grain solution of permanganate, with no apparent effect. General and vigorous routine treatment followed, including atropine, electricity, and so forth. After 2 p.m., the condition being very grave, he was given a 2-grain solution of permanganate, which was followed by improvement in respiration.

* *New York Medical Record*, vol. ii., p. 345.

† Here the question arises as to where the laudanum was obtained, as that kept by many country drug-stores is not very poisonous; at times inert.

‡ *Atlanta Medical and Surgical Journal*, vol. xxvi., p. 389.

* *Medical News*, vol. i., p. 699.

† *Ibid.*, vol. ii., p. 104.

Gradual improvement followed, with recovery in nineteen hours.

This is an interesting case, and I regret that Dr. Darby did not use the permanganate more frequently and earlier in the treatment. It shows, however, that there was no evidence of improvement from the larger dose given by the stomach, while there was a decided and marked improvement following the hypodermic injection.

Dr. C. M. McGuire offers a case* to the profession to show that permanganate is not only worthless but a dangerous drug to use. In this case, four hours after the ingestion of the poison and after the patient was well on towards recovery, he gave some 3 or 4 grains of permanganate to the patient. Sudden collapse followed; this he attributes to the permanganate. Shortly after this the patient recovered after persistent routine treatment.

This case acted similarly to the case of Dr. Crossland, in which the patient became suddenly worse an hour and a half after the administration of the permanganate; and can possibly be explained as one of the peculiar or erratic results of opium-poisoning, or by some peculiar idiosyncrasy on the part of the patient for the permanganate, or some condition not observed, as a dose of 4 grains of permanganate is but an ordinary therapeutic one, not infrequently given.

In this case it will be observed that there is no mention of the reflexes, and that the pulse and respirations received but a passing mention. The conditions immediately preceding and following the giving of the permanganate are not noted; consequently there is little value in the report.

The lack of detail and of careful observations recorded in most of the cases render them of little value in the study of permanganate.

After a careful review of the cases, one is loath to believe that the permanganate,

save in the case of Dr. Callender,* saved the life of the patient, in view of the associated treatment.

Apropos to the above cases, the case of Dr. Percy Pope† is an instance of what may be and has been accomplished with persistent and intelligent routine treatment. Here a young girl of nineteen, who never before had taken opium to her knowledge, took 12 grains of morphine hypodermically, and recovered in thirty-six hours under his constant and persistent treatment.

While this is an extreme case, it nevertheless goes to show from what enormous doses it is possible to rescue your patient by the old style treatment.

With this case in mind, together with the other cases reviewed, it must be admitted that the question of the true antidotal properties of permanganate is far from being established.

This conclusion being reached, and with the hope of finding something definite concerning the action of the drug, I have undertaken a few experiments on animals.

In considering these experiments it must be borne in mind that the lower animals, relatively to man, are peculiarly insusceptible to the action of morphine, and that the minimum fatal dose for rabbits was found by Falck to be 72 gramme per kilogramme of weight. It must also be remembered that rabbits vary somewhat in their susceptibility to the drug; and further that there is a considerable variation in their respirations and pulse, and that the latter is so sensitive to outside influences, such as alarm, noise, touch, the presence of dogs, and so forth, that it is not wise, in these experiments, to here attribute the noted changes in the pulse-rate to the effect of the drug being experimented with. For this reason I have not taken observations of the pulse in the following experiments.

* The question as to the quality of the laudanum, however, suggests that even here its effect may be overestimated.

† *London Lancet*, March 17, 1894.

* *New York Medical Record*, vol. ii., p. 343.

It is claimed by the friends of the permanganate theory that one grain of permanganate is sufficient to decompose one grain of the morphine.

Professor Wormlay, in his experiments with the two drugs,* in which he dissolved two hundred and fifty milligrammes of morphine sulphate in twenty-five cubic centimetres of water containing five hundred milligrammes of the permanganate, found traces of morphine present. In my experiment 12, in which I dissolved equal parts of the drug and mixed them together, and then filtered, there was found morphine present in both the filtrate and precipitate amounting to some six per cent.†

These experiments would, therefore show that, even when brought together in the proportion of morphine one and permanganate two, all of the morphine is not destroyed.

Experimental Data.—In my control experiments numbered 1, 2 and 3, it will be seen that comparatively small amounts of the permanganate produced death in the rabbits, which would seem to be out of all proportion to the lethal dose of morphine. It is therefore impossible to make satisfactory experiments applicable to man, and it must follow that to save the rabbit from death from morphine-poisoning it must be killed with the permanganate, unless it could be saved by giving an amount of the permanganate only sufficient to neutralize enough of the morphine to reduce it to less than a fatal dose. This failed in experiments numbered 7, 8 and 10.

As the fatal dose of morphine in man is usually so small and the toxic effect of permanganate so insignificant, the same objection cannot be raised.

In the endeavor to ascertain if the dose of Falck was given by the stomach or hypodermically, I gave a rabbit eighty gramme per kilogramme of weight by the stomach, through a No. 11 rubber catheter, by which all exhibitions by the stomach

were made, without it being visibly effected, except a certain drowsiness or stupor. I therefore thought that if the stomach were washed out and morphine administered, I could produce death with Falck's dose of morphine. In this I was unsuccessful. I consequently concluded that the dose was a hypodermic one and so considered it, giving all the morphine hypodermically.

Has Permanganate any Antidotal Properties?—From the cases cited and from my experiments I think there is evidence to show that permanganate exerts an influence that combats to some extent the effect of morphine. While there is but one case reported that can be said to have recovered from the poisoning by the administration of the permanganate, there is scarcely one reported that could not have recovered under persistent and judicious treatment had the permanganate not been given; yet I am convinced that in a few of the cases there is evidence of a decided effect produced by the use of the drug. I am confirmed in this belief by the results of my experiments, which show not only that there was a marked increase in the number of respirations and an apparent effect on the circulation, but that in each case where morphine had been given the lives of the animals were materially prolonged beyond the time at which death occurred in the control experiments with morphine, when permanganate was exhibited to combat the poison.

Is this Action Chemical or Physiological?—There can be no doubt that morphine is rendered largely inert by permanganate, when the two are brought together in direct contact. The illustration given by Dr. Moor, together with the experiments of Professor Wood and my experiment numbered 12, leave no room to doubt that when permanganate is taken immediately after the administration of a toxic dose of morphine or when given together, the poisonous effects are destroyed.

* See Professor Wood's Paper (ante).

† See analysis in Appendix.

To satisfy myself of this I performed the following experiments, first having ascertained the toxic dose on rabbits in the control experiments numbered 4 and 5.*

I treated ten cubic centimetres of an eight-per-cent. solution † of morphine with five cubic centimetres of a two-and-a-half-per-cent. solution of the permanganate, getting a thick, brownish-gray mixture, in which were scattered dark-brown specks. This I filtered five minutes later, getting eleven cubic centimetres of a rich sherry-colored liquid tinged with green. The permanganate should have acted on a sufficient quantity, weight for weight, of the morphine, so as to reduce the amount unacted upon below Falck's minimum fatal dose.

Experiment II.—Rabbit; weight, .86 kilos.

Time.	Mixture Subcutaneously.	Result.
10.07 a.m.	11 c.c.	12.34, death; opisthotonos in 2 hours 27 minutes.

As the death of this rabbit may be accounted for by its age, estimating it by its size, I made another test. I made a mixture of morphine and permanganate, weight for weight, and heated it at 80° C. for ten minutes. A thick, turbid, dark chocolate-colored substance resulted; this I filtered, and got a rich, sherry-colored fluid, similar in appearance to Lougal's solution.

Experiment 12.—Rabbit; weight, 1.50½ kilos.

Time.	Mixture Subcutaneously.	Result.
9.30-35	31 c.c.	Complete recovery.

I made an analysis of the filtrate and of the precipitate. Both analyses showed the morphine not to have been entirely destroyed.

* See Appendix.

† Made by heating.

This experiment indicates the chemical action of the drugs when brought together in direct contact, and also shows the morphine to have been rendered practically inert outside the body.*

In order to test the value of the permanganate as a chemical antidote on the morphine claimed to be eliminated in the stomach I performed the following experiment:—†

Experiment 10.—Rabbit; weight, 1.72 kilos.

Time.	Morphine.	Permanganate.	Result.
4.37	18 c.c.	1-per-cent. hypodermic solution, 18 c.c.	Death in 57 minutes.
5.01	.....	Per stomach, 36 c.c.	
5.20	.....	5-per-cent. solution, per stomach, 18 c.c.	

Here it will be seen that the rabbit received weight for weight of morphine and permanganate. The injection of the permanganate, which was given in identically the same place as the morphine, was sufficient to act chemically on enough of the morphine to reduce the dose to the minimum fatal one.

Giving the morphine time (supposedly) to be eliminated by the cells of the stomach I gave in twenty-four minutes by the stomach .36 gramme of permanganate, a sufficient amount to act on the morphine and reduce the dose much below a fatal one, did it act chemically; yet the rabbit failed so rapidly that I was obliged to try and revive it by another and much larger dose. The animal survived but fourteen minutes, and would have died earlier but for artificial respiration.

From this experiment it would seem that there was little or no effect produced by the first injection of the permanganate; that the dose of morphine was so great that no physiological effect was apparent from the first two doses of the permanganate; that if the morphine was returned to the stomach and was there acted upon by the per-

* See also Professor Wood's experiments on pigeons.

† See Appendix.

manganate, it must have been after it had produced the systemic toxic effect, and therefore incapable of doing further harm had the permanganate not been administered; or that it was not returned to the stomach at all; or if it was so returned, it remained unacted upon by the permanganate.

It will be noted that there was a marked increase in the number of respirations following the last and stronger dose of the permanganate.

From Experiments numbered 7 and 8 it will be seen that there was enough permanganate given by the stomach in each case to have rendered sufficient of the morphine inert had it been acted on chemically, so as to have reduced the dose far below a fatal one, yet both rabbits died.

It would seem, therefore, that there is no evidence to show that after the morphine is absorbed the permanganate acts chemically upon it; but that if the permanganate proves of any antidotal value, it is due to its physiological properties, and is therefore a physiological antidote.

Is the Action, therefore, Physiological?—
From a review of the cases and from the re-

sults of my experiments, I can but believe that it is in this manner that the permanganate may be of value.

Binz and Sydney Ringer claim, from self-experimentation with permanganate, to have experienced a marked action on the respirations.*

While placing little reliance in the permanganate as having saved the lives of patients in the cases cited, I can but admit, after a study of them and the observations in my experiments, that the permanganate acts in what seems to be a physiological manner.

The conclusions of Professor Wood, † drawn from his two experiments on rabbits, seem scarcely just when you consider the difference in the susceptibility of rabbits and the difference in the weight of the animals. Both were given the same dose of morphine. The larger took less than the fatal dose of Falck, while the smaller one took more than a fatal dose, together with the permanganate. It therefore seems to me unfair to attribute the earlier death of the smaller rabbit to the permanganate.

* Dr. H. I. Jones's article, *Journal of the American Medical Association*, vol. ii., p. 630.
† *University Magazine*, vol. vi., p. 747 (*ante*).

Epitome of Experiments on Rabbits.

Experiment.	Weight. Kilos.	Drug exhibited.	How exhibited.	Amount Grammes.	Time of Death.	Respirations.
1	1.61½	Permanganate.	By stomach.	2.95	2½ days +.	Rose from 30 to 250; fell to 50.
2	.96½	Permanganate.	Subcutaneously.	1.00	21 hours.	Rose from 54 to 120.
3	1.18½	Permanganate.	Intravenously.	.17	50 minutes.	Rose from — to 145; fell to 78.
4	2.36½	Morphine.	Hypodermically.	1.92	18 minutes.	Decreased from 90 to 78.
5	1.61½	Morphine.	Hypodermically.	1.36	23 minutes.	Decreased from 48 to 30.
6	1.18½	Morphine and permanganate.	Subcutaneously.	M. 1.08½ P. .57½	1 hour 52 minutes.	Rose from 51 to 105; fell to 42.
7	1.39¾	Morphine and permanganate.	By stomach.	M. 1.13½ P. 1.001	2 hours 17 minutes.	Rose from — to 200+; fell to 100.
8	1.18½	Morphine and permanganate.	By stomach.	M. .946 P. 1.50	2 hours 22 minutes.	Decreased to 32; rose to 105.
9	1.93¾	Morphine and permanganate.	Intravenously.	M. 1.56 P. .10	56 minutes.	Rose from 30 to 166; fell to 100.
10	1.72	Morphine and permanganate.	By stomach and subcutaneously.	1.44	57 minutes.	Decreased from 38 to 21; rose to 108.
11	.86	{ Morphine, 10 c.c. Permanganate, 5 c.c. } filtrate.	Subcutaneously.	11 c.c.	2 hours 27 minutes.	Decreased from 48 to 13; rose to 156.
12	1.50½	{ Morphine. Permanganate. } filtrate.	Subcutaneously.	31 c.c.	Recovery.	Rose from — to 126; fell to normal.

Experiments with Peroxide of Hydrogen.

Experiment.	Weight. Kilos.	Drug exhibited.	How exhibited.	Amount. C.c.	Time of Death.	Respirations.
13	1.18½	{Morphine. {Peroxide, ¼ strength.}	Hypodermically.	{12.0 {37.0}	44 minutes.	Decrease from 60 to 18; rose to 150.
14	1.39½	{Morphine (warm). {Peroxide, full strength.}	{Hypodermically. {Hypodermically. By stomach.	{14.0 {35.0 {18.0}	11 minutes.	Decrease from 75 to 21 later (?).
15	.75½	{Morphine, 10 c.c. {Peroxide, 20 c.c. }	Hypodermically.	25.0	6 minutes.	Impossible to get after injection (40 ?).
16	.64½	{Morphine. {Peroxide, full strength.}	Hypodermically.	{ 6.5 {10.0}	3 minutes.	Impossible to get after injection (48 ?).
17	.96½	{Morphine. {Peroxide, ¼ strength.}	Hypodermically.	{ 9.5 {48.0}	28 minutes.	Decrease from 81 to 33; rose to 87.

My first experiments, as before mentioned, were to ascertain which method Falck used in administering his fatal dose, and concluded that it was hypodermically. My next experiments were for control; to ascertain the amounts of permanganate and of morphine that would kill. In the experiments with morphine for control and those following I gave in each case the morphine in the proportion of 80 grammes per kilogramme; it will, therefore, be necessary to bear this in mind.

From the foregoing epitome the following will be noted :—

1. That the control experiments establish fatal doses for morphine and permanganate.

2. That when the permanganate was given after the exhibition of the fatal dose of morphine, the life of the rabbit was prolonged beyond the time at which death resulted from the morphine control experiments.

3. That the number of respirations was increased in each instance following the administration of the permanganate.

4. That the amount of the permanganate given by the stomach and subcutaneously after the dose of morphine was sufficient to destroy enough of the poison to reduce the amount exhibited far below a fatal one did it act chemically, yet each case proved fatal.

It is particularly interesting to note that with the administration of permanganate there was a marked rise in the number of

respirations, showing it to influence in some manner physiologically, directly or indirectly, the respiratory mechanism; this may be by acting as a stimulant or by acting as an irritant; and, further, it will be seen, by reference to the cases in detail in the Appendix, that there is evidently some influence produced on the vaso-motor system by the marked dilatation of the vessels of the ears.

In the endeavor to ascertain if the administration of the permanganate has any effect on the blood-pressure, I performed Experiments 18 and 19 on dogs.* In Experiment 18 I gave the permanganate alone, while in Experiment 19 I gave the permanganate after the exhibition of morphine. In both instances there was a steady and perceptible fall in the pressure, save at the time of or immediately following the exhibition of the drug. This may be accounted for by the irritation caused by the permanganate.

In both experiments there was an early and persistent clotting which effectually prevented the taking of further tracings. In Experiment 18 the clotting commenced in thirty-six minutes; while in experiment 19, where opium had been exhibited and a much less quantity of the permanganate, the clotting began in one hour and ten minutes.

In Experiment 18 the dog survived but two days, after repeated injections of digitalis; while the dog of Experiment 19 died

* See Appendix for particulars.

of opium poisoning in less than two hours after its exhibition.

It would, therefore, seem that whatever effect the drug has on the circulatory system, as evidenced by the dilatation of the vessels in the ears of the rabbits, it cannot be ascribed to pressure, but might be due to some effect on the vaso-dilators or to vaso-constrictor paresis.*

It would also appear from the early clotting in both experiments that permanganate or some of its products has some action which produces a change in the character of the blood, showing that some chemical action takes place which throws something into the circulation to produce it.

This effect on the blood may account for the physiological action produced, and in small and therapeutic doses may also account for its beneficial action in the cases of poison by the morphine.

The permanganate seems to act antagonistically to morphine when introduced hypodermically, as it does when by the stomach. Schlagdenhauffen and Reeb, in their experiments, found that when the drug was so administered it had the effect of suspending the action of the poison they were investigating. The case of Moreland and Grigg would indicate a similar action. In Carpenter's case the respirations seem to have improved, though the respiration-rate is not given. Callender's case certainly is of much importance as illustrative of this point.

Darby's case shows an improvement in the respirations after the hypodermic injection. My Experiment numbered 6 shows that while the respirations at first seemed to be influenced by the morphine, they were markedly increased after the injection over the spine.

By reference to Experiment 10 it will be seen that little effect was produced by the first two exhibitions of permanganate in the smaller doses, after the morphine had been taken up by the system, although

the first was introduced through the same needle and into the same pocket with the morphine; yet when the larger and more powerful dose was given, after the morphine had probably done its work, there was a great change in the number of respirations.

It is interesting to note that in Experiments 7 and 8, where the permanganate was introduced by the stomach, as compared with Experiment 6, where it was given hypodermically, the rabbits lived much longer when it was given by the mouth; notwithstanding that when it was exhibited hypodermically it was given as nearly as possible in the same place that the morphine was injected and as soon after as practicable. The amount of permanganate in each case was sufficient to reduce, chemically, the dose of the poison below the fatal limit, and being brought almost simultaneously into the same area as the morphine, the chance for its chemical action can hardly be questioned.

That these improvements in respiration and the effect produced by the permanganate can be attributed to its direct action on the morphine I think there is great reason to doubt. While it may not be the permanganate that is taken up by the system, it may be some of the products of the drug.*

Is Permanganate a Reliable Antidote?—From the self-experimentation of Dr. Moor, the experiments of Professor Wood, and my Experiment numbered 12, it would seem that the permanganate, when given with or immediately after the administration of the morphine, either by the stomach or as a filtrate hypodermically, acts as a reliable antidote.

The improvement following the exhibition of the permanganate in several of the cases quoted and the effect on the respiration I was able to observe in my experiments, warrant me in believing it to be a valuable adjunct to the old treatment, but not reliable *per se*.

* The vessels were found dilated, post mortem.

* See editorial on permanganate, *Journal of the American Medical Association*, vol. i., p. 755.

The enormous doses of the morphine necessary to destroy the lower animals render satisfactory experiments impossible, as the animals cannot survive both drugs; and as I do not think that there is sufficient evidence to be found in the cases to warrant the placing of any reliance on the permanganate solely as an antidote, I think its alleged properties are far from being established.

After a careful review and study of the cases, it is with great difficulty and hesitation that one can arrive at any definite or satisfactory conclusions. The large majority of the cases are found worthless, owing to the careless way in which they are reported or a lack of care in the observations made during the treatment of the case.*

Again, when it is found that the administration of the drug is always associated with the most vigorous and approved methods of treatment, together with the exhibition of drugs that are known to produce the general improvement usually noted after the use of the permanganate, it is with a feeling of greatest timidity and uncertainty that one attempts to draw conclusions. It can, however, be safely inferred that in no case, except, perhaps,

* As an instance of how little evidence there is to show that permanganate exerts a beneficial effect, there is reported a case interesting as a literary and narrative effort, though of little value medically. The doctor was called, and arrived three-quarters of an hour after the patient had taken the contents of a vial of L. and L., afterwards estimated to contain some three drachms of laudanum, of unknown strength. During one hour and three-quarters this case received from the doctor, as treatment, according to his report, $\frac{1}{2}$ grain of apomorphine. The temperature during this time was never taken, the reflexes never lost (note the effect of the hypodermic needle), the pupils contracted (did they respond to light?), the respirations slow, etc. After the lapse of the one hour and three-quarters spent with his patient, he used permanganate of potassium, with happy, and to him remarkable, results. This case is of interest in one way,—i.e., There was practically no other drug or mechanical treatment instituted; hence, provided the original amount of the drug, or that which was absorbed before the apomorphine exerted its effect, was lethal, recovery would necessarily depend upon the effect of permanganate. Such reports of cases, with their lack of detail and careful preparation, are of little value to the profession and do little towards gaining its confidence. Neither do they add "testimony to evidence." A case of mine will be found in the coming number of the *Gazette* which is of *as little* value. The similarity of the two will please be noted. (September 15, 1895.)

that of Callender's, was the life of the patient saved by the use of the permanganate alone, and in no case was it principally relied on.

No direct influence of the permanganate, when given hypodermically or by the stomach, on the morphine absorbed into the system has been demonstrated or proved to exist. This has, however, been claimed, and it is said to be due to the ability of the permanganate to give up a portion of its oxygen in the presence of organic matter. That this is true I am inclined to believe, because a person poisoned by opium dies as much from asphyxia resulting from CO_2 poison as he does from the opium, and it appears but reasonable to suppose that any additional oxygen put into circulation must act antidotally to the CO_2 poison, and thus prolong or save life.

That this is probable is evidenced by the case of Dr. W. C. Merry.* Here a man recovered who had taken 2 ounces of chlorodyne and was found in a completely cyanosed and collapsed condition, who failed to respond to the routine treatment of morphine-poisoning, and was given inhalations of pure oxygen for twenty minutes every half-hour.

In this case the oxygen acted as a forced artificial respiration and an antagonist to the CO_2 poisoning and, as such, seems to have been efficacious and must have shortened the time of treatment, if not actually saved the patient's life.

That free oxygen in the system exerts any direct influence adverse to the opium, when absorbed, I think, may be doubted from the following experiments made on rabbits with the peroxide of hydrogen; these investigations were suggested to me in the course of my work.

These experiments were certainly unsatisfactory; the peroxide was given of various strengths and in different manners; yet in no instance can the life be said to have been prolonged, except per-

* *Lancet*, vol. i., p. 1372 (London.)

haps, in Experiment 13. This may have been due to the idiosyncrasy of the rabbit for the poison. There is no doubt that death was hastened in Experiments 14, 15, and 16; the last two, it would seem from the suddenness of their death, died from shock, while Experiment 17 may be said to be negative.

Post-mortem examination showed quantities of free gas infiltrating the subcutaneous tissue where the peroxide was given hypodermically, and showed the stomach and intestines distended with gas where it was exhibited by the mouth.

It is interesting to note in Experiment 15 that in bringing the two drugs—morphine and peroxide—together their active properties were *not* destroyed.

It might be added that, after the failure to get the desired effect by introducing the morphine by the stomach, and the ill-success experienced in washing out the stomach for the purpose of getting that effect, it suggested itself to me to try an experiment by the rectum, by introducing the morphine and following it by a solution of permanganate.

This, however, was abandoned when it was known how much liquid it would require.* It seemed that it would be impossible to keep the solution in the bowel, especially when followed by the addition of the permanganate.

This but illustrates the disadvantage one labors under in experimenting with this drug on the lower animals.

Pathological Conditions.—Preparations of sections of the kidneys, liver, lungs, and stomach of the rabbits of Experiments 1, 3, and 10 show the effect produced in those organs by the circulation and elimination of the permanganate or its products. The condition found (the animals being presumably normal prior to the experiments) tends strongly to show that conditions of

congestion in all of the organs follow the use of the drug in large and concentrated doses (as those found necessary to counteract the lethal dose of morphine), and that instead of remaining inert after its exhibition, as commonly supposed, it produces a systemic effect of no little moment.

In all of the specimens there were found areas of congestion and irritation, and in several the vessels were found filled with blood.

These changes certainly indicate that permanganate, when administered by the mouth or otherwise, gets into the circulation in some form (either as permanganate or one of its products) and works some change in the character of the blood.

Conclusions.

The conclusions to be drawn from the foregoing investigations are:—

1. That the susceptibility of lower animals to the action of morphine renders experiments on them very unsatisfactory in arriving at any results referable to man.

2. That the dose of permanganate of potassium necessary to counteract the enormous lethal dose of morphine in the lower animals must of itself prove fatal.

3. That the exhibition of permanganate of potassium, by the stomach or hypodermically, has a marked influence in prolonging the life of rabbits poisoned by morphine.

4. That the action of permanganate of potassium, when given separately from and not immediately following the dose of morphine, is not chemical.

- (a) Because there is no proof of a chemical action to be adduced from the cases or experiments.

- (b) Because there is evidence that it does not act chemically.

5. That the action of permanganate of potassium is physiological.

- (a) Because there is no proof that it acts chemically, except when brought in direct contact with the stomach.

* A rabbit of .88 kilogramme (two pounds) would require more than fifteen cubic centimetres of an eight-per-cent. solution of morphine, if it took but twice a hypodermic dose.

(b) Because there is evidence that the exhibition of permanganate of potassium, by the stomach or hypodermically, increases the number of respirations.

(c) Because there is evidence that the exhibition of permanganate of potassium, by the stomach or hypodermically, has an appreciable effect on the circulatory system, as seen by the dilatation of the vessels of the ears and by the direct effect on the blood.

6. That permanganate of potassium is not a reliable antidote.

(a) Because there is no proof that when permanganate of potassium is given after the absorption of the morphine it is *per se* a reliable antidote.

(b) Because there is evidence that when the permanganate of potassium is given after the absorption of the morphine it is an unreliable antidote.

(c) Because there is proof that when permanganate of potassium is given after the absorption of the morphine it has no apparent effect.

7. That permanganate of potassium, like strychnine, caffeine, and atropine, has some valuable properties, useful in the treatment of morphine-poisoning, but as yet undetermined.*

Appendix.

Analysis of a Mixture of Permanganate of Potassium and Morphine.—*The Filtrate.*—Fourteen cubic centimetres of the filtrate (seventy-six cubic centimetres in all) of a mixture consisting of forty cubic centimetres of an eight-per-cent. solution of morphine sulphate and fifty-five cubic centimetres of a saturated solution of permanganate of potassium was treated with twenty-five cubic centimetres of ammonium hydroxide to precipitate any morphine present.

Then sixty-five cubic centimetres of hot amylic alcohol was added and well shaken up, so that it was thoroughly mix-

ed; the ammonium mixture remaining at the bottom lost four cubic centimetres in bulk.

By means of a pipette the amylic alcohol was drawn off, and the ammonium mixture again washed with more hot amylic alcohol, which was drawn off as before.

The whole of the amylic alcohol thus drawn off was evaporated on a water-bath to dryness. The residue gave the morphine reaction with sulpho-molybdic acid.*

The residue, being of a dark color, was dissolved with water to which a drop or two of acetic acid was added; the solution was again treated with amylic alcohol, drawn off, and evaporated on the water-bath; the residue was of the same color as the original morphine solution, and gave a decided reaction for morphine.

The residue was then weighed and found to be .027 gramme, being the amount of pure morphine in fourteen cubic centimetres of the filtrate.

The Precipitate.—Dissolving the precipitate, together with the macerated filter-paper on which it was collected, in water, it was treated with ammonium hydroxide to eliminate the morphine present; this was then mixed with hot amylic alcohol to extract the morphine, and this process repeated, as with the filtrate.

The amylic alcohol was then evaporated on a water-bath to dryness; then dissolved in acetic acid and water and again treated with amylic alcohol, and evaporated to dryness, as before. This resulted in a light-colored residue similar to the residue from the filtrate, and gave a decided reaction for morphine.

The residue was again dissolved and treated with ammonium hydroxide, which threw down a flocculent precipitate, which was collected on equipoised filter-paper and was found to weigh .047 gramme; this precipitate responded strongly to the morphine

* The words "proof" and "evidence," as above used, are not intended to be synonymous, the former being positive, the latter relative.

* The sulpho-molybdic acid is prepared by dissolving by gently heating three parts of molybdic acid in one hundred parts of sulphuric acid.

test, while the filtrate did not when brought in contact with the sulpho-molybdic acid.

Conclusions.—From the above analysis it would seem :—

1. That from the morphine of the original mixture there could have been recovered from the whole filtrate .1465 gramme, figuring it from the amount recovered from the fourteen cubic centimetres ; that, together with the .047 gramme recovered from the precipitate, the total amount of the forty cubic centimetres of morphine undecomposed was .1935 gramme.

2. That in the thirty-one cubic centimetres of the filtrate given the rabbit in Experiment 12 there must have been .0598 gramme of pure morphine.

3. That the permanganate of potassium decomposed or destroyed only about ninety-four per cent. of the morphine.

(NOTE.—From recent experiments with *laudanum* I am inclined to believe that permanganate has not the same “chemical antidotal” properties on the morphine contained in the laudanum, and that much more morphine can be recovered after treating laudanum with permanganate. As my experiments so far are too few and not yet complete, I simply give this as a suggestion. If this be so, the effect of the administration of the permanganate in cases of laudanum-poisoning would indicate that its influence is rather physiological than chemical.—July 1, 1895.)

Pressure Experiments.

Experiment 18.—Dog ; weight, 9.46 kilos.

A.M.

11.00 Dog was etherized and canula introduced into left carotid artery.

11.18 Tracing taken when coming out of ether shows a pressure of 128 millimetres.

11.20 18 cubic centimetres of a two-per-cent. solution of permanganate was introduced hypodermically into abdominal muscles.

11.21 Tracing shows a slight rise of pressure of 4 millimetres. Pressure 132 millimetres.

11.28 Tracing shows a fall of 20 millimetres. Pressure, 112 millimetres.

11.40 Gave 12 cubic centimetres of a two-per-cent. solution of permanganate into thigh muscles. Pressure, 102 millimetres.

11.42 Tracing shows a slight rise of pressure of 7 millimetres. Pressure, 109 millimetres.

11.51 Tracing shows a fall of 5 millimetres. Pressure, 104.

11.57 Obligated to discontinue tracing on account of *continuous clotting*, although several unsuccessful attempts were made to clear canula.

(NOTE.—Dog died two days later, having refused to eat, but drank frequently of water.)

Experiment 19.—Dog ; weight, 7.74 kilos. P.M.

1.40 Dog was etherized to introduce canula into left carotid. Pressure, 110 millimetres.

2.05 Gave 40 cubic centimetres of an eight-per-cent. solution of morphine, which was followed by an immediate lowering of the pressure. Tracing shows a pressure of 78 millimetres.

2.15 Gave 40 cubic centimetres of a one-per-cent. solution of permanganate by stomach, with no apparent effect on pressure.

2.17 Tracing shows a pressure of 54 millimetres.

2.32 Gave 20 cubic centimetres of a two-per-cent. solution of permanganate hypodermically.

2.37 Tracing shows a pressure of 48 millimetres.

2.56 Pressure falling so rapidly, gave by stomach 50 cubic centimetres of a two-per-cent. solution of permanganate. Tracing shows a pressure of 42 millimetres.

2.59 Tracing shows a further fall. Pressure, 41.

3.15 Obligated to stop tracing on account of clotting.

(NOTE.—Dog died shortly after release, at 3.20 p.m., from effect of the morphine.)

PERMANGANATE OF POTASSIUM IN OPIUM-POISONING.

In the correspondence columns of the *Therapeutic Gazette* of the August issue there appeared a brief note regarding a case of morphine poisoning, in which the patient is supposed to have ingested 30 grains of the sulphate of morphine, and in which recovery took place under a method of treatment in which the permanganate of potassium was largely administered hypodermically. And in this issue we publish the exhaustive research of Dr. Sharp on this topic. Notwithstanding these arrays of facts, our opinion in regard to the question remains unchanged and may be expressed as follows:—

We think that there is little doubt that this substance, when given by the mouth during the time that morphine still remains in the stomach, possesses distinct antidotal influence, since by its powerful oxidizing properties it speedily destroys the alkaloid of opium. Even here, however, it should be remembered that the action of the permanganate in the human stomach must be far less efficacious, so far as oxidizing morphine is concerned, than it is when placed in a test-tube, since the presence of other contents of the stomach, of mucus, or the mucous membrane itself, to a certain extent helps to impair the full effect of the antidote. When it comes to the administration of the permanganate of potassium hypodermically for the purpose of acting as a chemical antidote in morphine-poisoning, we think that we have reached a *reductio ad absurdum*, for two reasons. In the first place, the permanganate of potassium possesses no power

which would enable it to act as a physiological antagonist to the influences of morphine, and the only way in which it can do good in poisoning by this drug rests upon its ability to oxidize the alkaloid. As a matter of fact, a solution of permanganate of potassium injected into the subcutaneous tissues is at once oxidized and changed into a different substance and, therefore, can no longer act as the permanganate; and further, even if this chemical change did not take place, its hypodermic administration would be futile, since long before it could be absorbed and act upon the morphine, which is widely distributed in various portions of the body, it would have oxidized other substances which it might have met with in the blood or other tissues of the body. We are well aware of the fact that quite a number of cases of morphine-poisoning with recovery after hypodermic injections of permanganate have been reported within the last few months, but we have yet to see one in which strict scientific evidence was adduced that the recovery depended upon this method of treatment.

We doubt not that the hypodermic injections frequently administered have some influence in keeping the patient awake, or, in other words, of preventing him from forgetting to breathe, by reason of the pain which these hypodermic injections adduce. In other words, the recovery in these cases, if due to this method of treatment, rests upon the peripheral irritation which is caused, and not upon any action of the permanganate of potassium.

In the case which was reported by Dr. Suker in our correspondence columns; it will be noticed that the patient received no less than nineteen hypodermic injections on an average every ten or fifteen minutes, which caused more or less swelling and discoloration of her arm, and that in addition she received that most powerful of stimulants, $\frac{1}{16}$ grain of nitro-glycerin hypo-

dermically, and $\frac{1}{2}$ grain of apomorphine; the first drug "acting nicely," according to the statement of the reporter.

A FEW OTOLOGICAL AND RHINOLOGICAL DON'TS; OR, WHAT NOT TO DO IN EAR AND NOSE CONDITIONS.

Roberts contributes the following brief notes to the *Medical Record* for June 1, 1895:—

Don't advise or permit a patient with profuse otorrhea to constantly wear cotton in the ear; it causes retention of discharge, and operates against that diligent attention to cleansing and other treatment which would otherwise be given.

Don't use the galvano-cautery in the auditory canal; it is liable to be followed by such consequences as necrosis, ulceration, otitis externa, or stenosis.

Don't blow insoluble powders into the ear, where there is a purulent discharge through a small perforation; it may appear to stop the discharge, but it does so usually by occluding the perforation, and may be followed by worse conditions.

Don't neglect to look for ear complications in all eruptive fevers, typhoid fever, diphtheria, and low types of pneumonia.

Don't Politzerize through nares in which there is stored up foul catarrhal mucus.

Don't Politzerize with much force in sensitive patients or those having a thin, translucent drum-membrane.

Don't neglect to keep watch of the mastoid prominence in all cases of purulent otitis, and if tenderness, heat, and swelling are found, to take measures to subdue a probable incipient mastoiditis.

Don't overlook, in chronic ear-disease, constitutional conditions, such as lithiasis, scorbutus, tuberculosis, and syphilis. This precaution applies likewise to diseases of the nose and throat.

In seeking to enlarge the capacity of the nasal passages, don't forget that in patients of middle age the tendency is

towards atrophy, and don't think it necessary to secure an absolutely normal capacity on both sides at the expense of an entire turbinated body.

Don't spray the nose with powerful solutions, or only exceptionally with such as give pain.

Don't think that atrophic rhinitis or fetid catarrh can be helped by any medicinal applications until all inspissated crusts and dried mucus have been removed.

Don't use a douche arranged on the plan of the fountain syringe; it is pretty certain at some time to cause middle-ear inflammation.

Don't cauterize a turbinated body near a point lying in juxtaposition to the septum, or operate upon the turbinate and septum at one time. The result will probably be an adhesion, and the final state of that person will be worse than the first. In the case named the snare may be used, or a cautery may be applied to the central interior portion of the growth by the pointed electrode or by injection of a few drops of dilute carbolic acid or pure iodine tincture.

Don't neglect to give especial attention to the posterior nares and vault of the pharynx; aside from operative measures, it is in these regions that local treatment will prove effectual.

Don't make strong applications to the vault of the pharynx without guarding against the surplus fluid dropping into the larynx, and thus setting up an alarming attack of laryngeal spasm. This can best be avoided by pressing out the excess of fluid from the application and directing the patient to take a swallow of water immediately after the application is made; a very good plan also is to wind an extra wad of cotton around the shank of the applicator at about its bend, which will catch and hold any surplus fluid which may be pressed out by the palatal contraction.

Don't, under any circumstances, cauterize the pharynx above the level of the soft palate. As yet no one has succeeded in

curing adhesions between the palate and wall of the pharynx.

Don't cauterize the septum; it will result in troublesome ulceration, or not unlikely in proliferation of tissue, producing exostosis or epichondrosis, according as it is either bony or cartilaginous tissue that has been offended.

Don't remove packing from the nose after an operation in less than thirty-six hours, or leave it in longer than sixty; the former action delays the progress of the case by causing irritation and renewed hemorrhage; the latter is needless and may result in some septic infection.

Don't use any but antiseptic dressings, of which the best is iodoform gauze.

Don't prescribe cocaine preparations for coryza and tell your patient what you are giving; equally good results may be obtained by the use of hydrastinin nitrate in two- to four-per-cent solutions or powders, and

with more enduring effect, as well as without reaction.

Don't employ tannin or iron styptics, thereby producing tardy coagulation, difficult of removal; if anything short of plugging will suffice, it may be found in antipyrin forty-grain solution, or the pure drug, or in peroxide of hydrogen of about two-per-cent. volume.

SILK *versus* CATGUT.

Kocher (*Universal Medical Journal*, June, 1895) states that in his operations for goitre primary union was obtained in only thirty-five per cent. of cases when sterilized catgut was used, but in 85.7 per cent. when sterilized silk was used. He has now completely abandoned aseptic sutures, and only employs silk made antiseptic by solution of bichloride of mercury. Since adopting this method he has obtained primary union in every case.

Evangelistic.

WORK IN MANCHURIA.

We extract the following from the report of a speech made by Dr. Westwater of Manchuria and reported in the *Edinburgh Medical Missionary Society's Quarterly Paper*. Dr. Westwater was in 1887 transferred from China to Manchuria and appointed to commence medical mission work in the capital of that province. His first attempt to obtain a house was unsuccessful, but he secured one some forty miles away and there he dispensed medicines. The native magistrates, however, displayed much hostility. "One of the members, a silversmith, brought an action against a defaulting partner; when he appeared in court the magistrate, on being informed that he was a Christian, at once replied, "Take the *thing* outside and give him three blows on the face with the bamboo." After this action of the magistrates assaults on the Christians and attacks on the chapel and dispensary became common, ending on the last occasion with the death of Mr. Wylie. "This was the condition of things when the wife of the magistrate, who was suffering from a surgical affection for which the native doctors could do nothing, came to him. An operation afforded immediate relief. Other members of the family, including a son, also came under his care and in a short time that hostile magistrate and his whole household became their best friends. The change that took place in that household took place in the homes of many other persons in the city. They had recourse to him for medical assistance and that, giving opportunity for more intimate acquaintance, led them to discover that he was not the foreign devil they had anticipated: soon departing from the ranks of his enemies, they joined the rapidly increasing numbers of his friends. The following autumn, joined by Mr. Wylie, he took up his permanent residence in the city. During that year many people were admitted to the membership of the Church and, a suitable site having been secured, he was able to erect a hospital. The site of the hospital was the glebe of an ancient Buddhist temple. The owner was a priest, gambler and opium smoker. Meeting him (Dr. Westwater) one day, he said, "Now you have got the ground, you had better take the temple too;" he did so for a small sum. The temple was in a ruinous condition and there was a large bell belonging to it in the possession of the late owner. Meeting the latter one day Dr. Westwater said to him, "Now we have got the temple, you had better present us with the bell;" one day he found that the bell had been brought to his door. Thus their hospital stood on the site of the Buddhist temple and above the door of the hospital is now the old bell which formerly had crowned the

temple. The following year their new premises were opened by Mr. Duncan McLaren, of Edinburgh, Chairman of the United Presbyterian Board, who happened to be in Manchuria; that hospital added greatly to the scope of their medical work there. Through their work they got acquainted with the most influential men in the city, who constantly came to the hospital and dispensary. When these men came they were keenly observant of the methods of the missionaries and of their endeavours to heal the sick and to teach the ignorant. What they saw condemned their own indifference to the moral well-being of their fellow-men and, as staunch Confucians, they felt the reproach. As a result, a Committee was formed of the citizens and they resolved to erect a hall, after the model of the Christian chapel, to expound the sixteen moral maxims of Confucius which had been ordered to be expounded on the 1st and 15th of the month. That practice had fallen into disuse and this Committee resolved that that should be done in future. They obtained a house in one of the principal streets, fitted it up, and made it suitable for their purpose. They endeavoured to obtain assistance and help from one of the hospital assistants, whom they desired to appoint lecturer to this Confucian Home Mission. Failing to get this assistance their purpose did not succeed; some of the members of Committee resigned and others grew lukewarm. Meeting some of the promoters one day, he—Dr. Westwater—said, “You don’t seem to be able to manage this thing well; you had better hand the hall over to me.” He was not a little surprised, however, when a deputation appeared at the dispensary with a properly drawn up deed of gift handing over all the buildings to him. A few days afterwards, accompanied by Mr. Wylie and their entire staff, he opened the place as a teaching mission in connection with their mission. He felt that that day another triumph had been recorded for Christ’s cause and that that great scheme, which was to counteract the influence of Christianity and to prove the superiority of the teaching of China’s greatest sage, had openly retired in favour of the Gospel. As he stood in the hall and thought of only a few years back, when he had travelled day by day, trying in vain to get a footing in the city and to help the cause there, he could only exclaim, “how has Christ conquered!”

PAKHOI MEDICAL MISSION.

In an account of the work of the above mission, written by Dr. Horder, we have set before us one of the reasons why the work of medical hospitals affords special opportunity for evangelistic work.

“The hospital gives the missionaries many opportunities of personal dealing with men and women whom they cannot get at on the streets or even in

the houses. On the street the Gospel is preached to crowds, the missionary trusting God's Word will not return void. It is seed scattered broadcast in prayer and faith and hope, with much patience and joy, and it may be many months and even years before he sees or hears of any fruit of his labours. In the houses personal dealing is not always possible or practicable, owing to the crowds of friends who step in to see the foreigner and hear the Western doctrine. But in the wards the patient is away, "far away" it may be "from kith and kin" and quietly resting in a comfortable bed, and soon learns he is surrounded by real friends who seek his highest good both for body and soul.

"Morning and evening he hears the Gospel preached and explained by those who are attending his sick body. If the patient be a reading man he begins to peruse the Bible and tracts distributed in the wards and by God's Spirit he is led into the truth.

"To illustrate the above we will give a short account of some cases recently patients in the male wards. A man came from some distance with an incurable disease of his eyes. Day after day he listened to the Gospel stories and became intensely interested. Eagerly did he drink in all that was told him. On the next bed lay a man who had been operated upon for double cataract. When this patient could see, our blind friend asked his neighbour to read to him portions of the Bible and hymn-book; in this way he was able to learn by heart much of the Bible, prayer and hymn-books. As the man who had received his sight read, the blind man explained the meaning and urged his conversion to God. All the patients in the male wards came to hear this poor fellow preach the Gospel, resulting in the blind man and two others asking for baptism. The patient, who is incurably blind, is a most earnest evangelist and seeker for souls. He may be seen every morning in the midst of the out-patients, explaining the Gospel truths in no uncertain sounds. He knows he has passed from death unto life and rejoices, on being told nothing can be done for his sightless eyes, in saying he has spiritual sight, which is far more important.

"Several other instances could be given where patients have been true Andrews, speaking at once to others in the wards of their recently-found Saviour."

"It is I, be not afraid."

'Peace,' saith my God, and who is there shall let it?
 Peace, as thou walk'st this rough, uncertain Sea;
 The night is dark and winds howl fierce around thee,
 Yet peace, my child,—thy hand—thou walk'st with Me.

Thy friends, thy old-time trusted, are not near thee,
 Counsellors fail, they fear thy guide to be,
 Yet lo! A way I now have cleared before thee,
 Fear not, I've called thy name, follow thou Me.

And so I would, my Master, elsewhere whither?
 Make Thy way plain, lead on, e'en by Thy Rod;
 The lone, dark desert's bright with heavenly splendour
 If there I mark the footsteps of my God.

Thy path is in great waters. Who can tread it?
 And yet this one request I make of Thee,
 According to Thy Word :—'Here and hereafter,
 Where Thou art let Thy servant also be.'

M. A. P.

Note and Query.

NAME FOR HOSPITAL AND DISPENSARY.

醫局 here is the native term, and really means a dispensary, as there are no native institutions admitting in-patients. Let 醫局 therefore stand for dispensary.

A hospital being a foreign idea (I am open to correction on this point) the term used to designate it will have to be coined. 院 as including the idea of residence would seem to be most appropriate. Let 醫院 therefore stand for hospital.

Are there any better terms?

If not it would be a good thing if we could have uniformity.

Review.

An American Text-book of the Diseases of Children. Including special chapters on essential surgical subjects; diseases of the eye, ear, nose and throat; diseases of the skin; and on the diet, hygiene and general management of children. By American teachers. Edited by Louis Starr, M.D., assisted by Thompson S. Westcott, M.D., and sixty-one contributors. Philadelphia: W. B. Saunders, 1894, pages xiv. and 1190, royal octavo, cloth, \$7.00.

This is one of the series of books lately published by Mr. Saunders, by whose enterprise and energy the medical profession have been greatly benefitted. "An American Text-book of Surgery," "An American Text-book of the Theory and Practice of Medicine," "An American Text-book of Gynecology," have appeared, and each one of these books has met a want and has supplied a working text-book for physicians and students. They have been up to date, and the teaching has been clear and reliable.

After a careful examination of this new book upon the diseases of children we find that it is an interesting work, and the names of the contributors, where among many well-known writers we find articles from the pens of W. S. Christopher, Albert R. Leeds, W. P. Northrup, William Osler, William Pepper, F. C. Shattuck, J. Lewis, Smith, Henry R. Wharton and J. William White, are in themselves a guarantee for the reliability of their work. One marked innovation is the large number of authors, nearly every article being contributed by a specialist in the line on which he writes. The opening chapter on "The Clinical Investigation of Disease and the General Management of Children," is by the editor, Louis Starr, M.D. In this he systematically

discusses the questioning of the attendants, inspecting the child, {physical examination, and notes the most important points to be elicited. Fairly full statistics are given with regard to the normal sounds, temperatures, pulse, body weight, condition of skin and other important matters. The article "on feeding" is carefully written, and is abreast of the times. The reasons for special feeding and the direction for the different foods advised are fully and carefully given. The diet schemes are clear and explicit. His closing words will bear quoting, "In conclusion, it must be remembered that children do not often require energetic treatment with drugs. Proper feeding and hygiene are of most importance in the management of disease in early life."

The chapter on "The Chemistry of Milk and of Artificial Foods for Children," by Albert R. Leeds, Ph.D., though concise, is full of instructive remarks. It is well illustrated by tables of analysis. Part II. The Diathetic Diseases, begins with an article by Osler on Tuberculosis. He states that "the appreciation of the widespread prevalence of tuberculosis in the early periods of life is due to recent observations." "In the creche of the Hôpital Turon of Paris, in the year 1890, it is stated that more than 21 per cent. of the babies died of tuberculosis." Instructions are given for a ready method for demonstrating the bacilli in sputa, and a good colored plate is given to show: 1, Section of a small fresh tubercle; 2, Section of tuberculous pleura; and 3, Tubercle bacilli in sputum. The modes of transmission are considered and the conditions influencing infection. The various forms of tuberculosis as it attacks different organs and parts of the body are described and the symptoms and diagnosis given. The treatment

is carefully considered. He speaks quite hopefully and says, "Fortunately a very large proportion of all cases of tuberculosis recover." Typhoid fever Earle says, "It is particularly noticeable that epidemics take place which principally affect children." He prescribes *absolute rest in bed*, a restriction to fluid diet, reduction of temperature by baths, or by placing cold towels over the child when it declines the bath. Attention to intestinal antiseptics. He thinks but little of the treatment of every symptom as it occurs, but believes in the giving a general nutritive tonic.

The article on Cholera Asiatica, by E. O. Shakespeare, is illustrated by photo-micrographs of comma bacilli. He states "that in young children who consume habitually large quantities of milk the offending material ingested may already contain, before swallowing, a sufficient quantity of the specific *chemical* poison of cholera to produce an attack of the disease." After giving some formulas for administration by the mouth he says, speaking of the treatment of the period of severe diarrhoea or systemic intoxication, "Unfortunately in this stage of cholera medication by way of the stomach is always impeded, very often rendered almost useless, sometimes quite impossible of effecting an impression by reason of the vomiting and the failure of absorption in the intestines. What other resources has the physician left to him? There are still three which used judiciously and skilfully, are powerful to restore marvelously—at least for a time, sometimes permanently—the suspended functions. I refer to intestinal, to hypodermatic and to intravascular irrigation. Enteroclysis, hypodermoclysis and intravascular injections are fully described and commended.

The article on Diphtheria, by Dillon Brown, is very well written, and gives good directions for treatment, although when it was written the antitoxine treatment was only just coming into notice. Great stress

is laid on keeping up the strength and nutrition of the patient. Transfer patient from his room to fresh thoroughly aired one frequently, avoid internal medication, unless clearly indicated. Chlorate of potassium is dangerous. "Remove broken-down membrane pus and other *débris* by irrigation of the diseased surface with fifteen volume sol. of peroxide of hydrogen diluted with lime water."

Destroy bacilli by a sol. of bichloride of mercury 1: 1000 by irrigation or spray. If spray or irrigation cannot be used best substitute is inhalation of fumes obtained by subliming calomel.

The special articles on Surgical Subjects are by Henry R. Wharton, M.D.—Tracheotomy, Intubation, Diseases of the Anus and Rectum and Congenital Intestinal Malformations; Phimosi, Adherent Prepuce, Paraphimosis.

The articles on Vesical Calculus and on Gonorrhoea and Vulvo Vaginitis are by that accomplished surgeon, J. William White, and they are replete with interest.

In the article on Malarial Fever, by W. S. Thayer, M.D., special prominence is given to its parasitic origin. The parasites are figured. The organisms of the aestivo-autumnal fevers are described also and figured. The pathological anatomy is given. Pernicious malarial fever. Affections of viscera, sometimes associated with malarial fevers, are studied. Methods of examination of the blood are described, and the treatment is given.

W. E. Casselberry, M.D., furnishes a good article on Diseases of the Pharynx and Naso Pharynx, with directions and illustrations for the operations needed.

Diarrhoeal Diseases, by Victor C. Vaughn, M.D., as might be expected from this writer's name, much attention is given to the subject of milk infection. Acute milk infection and sub-acute milk infection. The treatment of the different forms of diarrhoea is carefully given.

Samuel S. Adams M.D., treats of catarr-

hal dysentery, amoebic dysentery and diphtheritic dysentery. After giving the usual directions as to the hygiene, the dietetic and the medicinal treatment, he lays great stress on intestinal irrigation as the most rational treatment of dysentery, and gives very full and careful directions for the proper carrying out of this plan of treatment.

Diseases of the Cæcum, and appendix, by John Ashhurst, Jr., M.D., and intussusception by the same author are valuable articles. More than 200 pages are given to diseases of the brain and nervous system, and only a want of space prevents us from giving some idea of the interesting work under this heading.

Diseases of the nose are specially considered by W. E. Casselberry, M.D.

The important subjects of broncho pneumonia and croupous pneumonia are taken up by William Pepper, M.D., and as might be expected are among the best papers in the volume.

Bronchitis is often a serious affair with young children, and the article on this disease by Walter S. Christopher, M.D., is well considered and reliable.

The important subject of diseases of the genito-urinary system is treated by six different contributors.

J. N. Danforth, M.D., has a good article on Acute and Chronic Nephritis and Amyloid Disease of the Kidney. Much space is given to the consideration of diseases of the skin, which is illustrated by full page colored plates and photo-lithographs. The article written by W. A. Hardaway, M.D., is clear and practical.

B. Alexander. Randall, A.M., M.D., writes the article on Diseases of the Ear, and G. E. de Schweinitz, M.D., closes the volume with a good description of Diseases of the Eye.

Of course where so many have contributed the articles vary somewhat in their standard of excellence, and they lack the charm of individuality which we feel when reading a volume fresh from the pen of one of the great masters of the science of medicine. In the place of this we have a work which is up to the times; much attention has been given to the consideration of the latest accepted teaching upon the etiology, symptoms, pathology, diagnosis and treatment of the disorders of childhood; many special formulas and therapeutic procedures are introduced. The book is well illustrated by many wood cuts, half-tone plates and colored illustrations.

The writer sent for the book and received a copy of it last autumn; he has had time to read it and to make free use of it in his practice. As he has during that time been in charge of a children's ward in the hospital, an orphanage for very small children and the schools for boys and for girls at St. John's College, besides his private patients, he has had plenty of opportunities for testing the value of this work. It is a valuable work coming from men in active practice and fully acquainted with the needs of their professional brethren. As a good all round book on the diseases of infancy and childhood it has no superiors.

H. W. BOONE, M. D.

Hospital Reports.

In previous years it has been the custom to review the reports of the various medical missions in China as those reports have come to hand. This year we have waited until all the reports that we are likely to receive have reached us; we propose in this review to deal with them all, classifying the information which they give under certain main headings.

1. Statistics.

	In-patients.	Surgical operations.	Out-patients.		Visits to patients in their homes.
			New.	Old.	
Medical Missionary Society in China . . .	1595	1809	3615	12530	..
Schofield Memorial Hospital, Shansi ..	163	484	2602	5905	137
Hiao-kan Leper Asylum, L. M. S.	26	..	..	..	..
Peking Hospital, L.M.S.	162	43	14504	18749	278
Chi-chou Hospital, do.	234	533	7160	5245	48
Tientsin Hospital, do.	464	..	5613*	..	..
Alice Memorial and Nethersole Hospitals, Hongkong, L. M. S.	614	138	8916	7978	..
An-ting Hospital, Am. Presbyterian ..	88	689	26250*	..	292
I-chow Fu Dis., Am. Pres. . .	..	..	8361	5667	72
Ningpo Hos., Am. Bap.	205	162	6574*	..	210
Chungking Hospital, Meth. Ep. . . .	439	218	8365*	..	394
Hangchow Hospital, C. M. S.	1086	1028	16851	not regist.	996
Tung-kun Hospital, Rhenish M. S. . .	437	924	5404	13164	..
Hupei Hospitals, W.M.S.	293	..	10053	4650†	..
Po-na-sang Hospital, Foo-chow	205	208	4629	9790	370

2. Changes in Staff.

The Hangchow Hospital rejoices in the arrival of Dr. Kember.

Once again the Tientsin Hospital has had to pass through the trial of faith. "In the spring, Dr. J. H. Bennett came out from

* Inclusive of both new and old out-patients.

† Incomplete.

home to join me in this work. He at once began studying the language, giving his whole time to it, and hoping ere many months passed to take his share in the work to which he had given his life and to which he was so much drawn; but God willed it otherwise. Mrs. Bennett became seriously ill and Dr. Bennett was obliged to return to England with her. He is an able doctor and devoted missionary: we had learned to love him and felt his loss a great disappointment."

3. New Buildings.

The buildings of the Hiao-kan Leper Home were opened on Sunday, April 7th, 1895, "when the Rev. Griffith John, D.D., conducted a largely-attended service in the sitting room of the Home. On the very next day no less than ten poor lepers applied for admission, most of whom were taken in, and nearly all have remained in the Home ever since.

"The Home consists of 13 rooms built round 3 sides of a quadrangle; of these rooms 6 are bedrooms, containing in all 16 beds, all of which have been occupied for some months. There is a large, airy sitting room, where services are held and where the patients can have their meals, a kitchen, bath-room, dispensary and store-room, and two rooms for attendants. At the back of the buildings there is a large garden, where the inmates can grow their own vegetables, and in front a deep pond of which we are part owners."

The report of the Hangchow Hospital mentions what we think is a new departure in connexion with medical missions in China. Land has been secured in a lovely spot on the Needle Pagoda Hill for the erection of a convalescent home for weak patients and weary workers.

The Mission has sufficient funds to enable it to commence building operations.

4. *Instruction of Native Students.*

The Medical Missionary Association in China report "that the instruction of the medical class has been continued without interruption. There have been in attendance 21 young men and 7 young women. Instruction has been given by recitations in the various branches by Dr. Leung Kin-cho and special instruction in several departments by Dr. Kerr, Dr. Niles, Dr. Fulton and Dr. Wan Tün-mo. Two examinations are held during the year and certificates are given at the end of the course to those who pass the required examinations. Six young men received certificates at the last examination."

At the Chi-chow Hospital a medical school has been started. "There was no lack of applicants. Three only were selected as an experiment. One has been my helper for several years and is well up in the practical part of the work, but lacks a systematic training. The other two are quite new to the mysteries of foreign practice, one Mr. Li, having taken his degree of B. A.

The course of study will extend over a period of three years. By that time we hope to have taken up anatomy, physiology, surgery, medicine, pharmacy and therapeutics, together with as much practical work as can be seen at the daily clinics and operations. The object in view is to turn out thoroughly practical men, filled with the love of God towards China's perishing millions, to take charge of branch dispensaries in connexion with our far-off out-stations. We have this year been through Gray's Anatomy, translated into Chinese by Dr. Osgood; also Ringer's Therapeutics and a portion of Dr. Porter's Physiology. The students are bright, intelligent, enjoy their work and there is every hope that the present experiment will turn out a success."

At the Alice Memorial Hospital "eleven students of the College of Medicine for Chinese are going through a sort of apprenticeship to the two hospitals, the apprenticeship in each case being for a period of five years, running parallel with the minimum curriculum of five years of medical study required by the College. They live in the hospitals and among them share the dressing, clerking, dispensing, minor duties at operations, &c., each student holding every minor post in the hospitals in rotation for periods of three months at a time. They also accompany the house-surgeons to the obstetric cases frequently attended from the hospitals, these being usually of the most serious character. While their technical instruction as yet falls behind that required by examining boards in England, they have a larger clinical experience on all sides of their professional work than most students in the home lands.

In the female wards Mrs. Stevens has, in addition to a Chinese nurse, two young Chinese women in training as nurses. They are both intelligent girls, themselves heartily interested in the life-work they have voluntarily adopted and promise well as nurses. The need of the creation of a race of native nurses, able to bring trained assistance not only to their own country women but also to the many European ladies in Hongkong who at present suffer from the lack of such, makes this new effort not the least important part of the many-sided work which has its centre in the Alice Memorial and Nethersole Hospitals."

In connexion with the An-ting Hospital a course of clinical lectures was delivered to the students of the T'ung Wen Kan.

At the Chungking Hospital "the instruction of the medical students has been one of the most delightful and interesting parts of our work. Five young men have been under instruction during the year and we are adding two more at the beginning of new year. Three of these five will have come up for their final examination before

the close of 1896. The work done by the three senior students has been of the highest order, they have made frequent itinerating visits into the country and have dispensed the healing from the Word of God to hundreds of people as well as healing to their bodies."

At the Hangchow Hospital "the number of students under instruction is eight. This work consumes a great deal of my time and binds me very much to the city. It is no use trying to teach students at odd times and by fits and starts, systematic teaching is all important if satisfactory results are to be obtained. Being convinced of the urgent necessity in China of a thoroughly qualified Medical Mission Native Agency we consider no labour lost in trying to produce it . . . The success that has followed those who have passed through our hands abundantly justifies the amount of money and time spent in educating them. One or two of our men have been led away by the desire to make money and that as quickly as possible, but most of them are doing mission work and working hard at a salary very much below their market value. Their worth is well-known and more than once tempting salaries have been offered them, at least double the amount they receive from us, and it speaks well for their Christianity that they continue with us in the work. They render us invaluable help, without which our work would have to be reduced by one-half. In fact for the successful management of a work like ours efficient native helpers are a *sine qua non*. We are publishing a free translation of Whittle's Dictionary of Treatment, which we have gone through with our students, and which we hope will be of some use to our native assistants and those who know something of foreign medical treatment."

In connexion with the Po-na-sang Hospital, "with the commencement of the last Chinese year two new students were taken on trial, making a total of seven under training until January 1st, 1896. At that

time it seemed necessary to discharge four of them, retaining the three most promising and most useful men for the necessary work. The chief reason for discharging the men was their lack of solid Christian character, without which students soon yield to the temptation to exact fees for attention to patients, to treat those who are too poor to give them fees in an unbecoming manner, to slight their duties, or to dispense hospital medicines to their friends outside of clinic hours. The idea of treating exactly the same, rich and poor, learned and unlearned, Christians and unbelievers, natives of Foochow and those from distant parts of the empire, those whose cases are agreeable to treat and those which are not, as we aim to do, is one that is passing difficult to teach the students to act upon."

5. Itineration.

The staff of the Chi-chow Hospital have made six medical trips for a period extending over a week each. From the I-chow Fu Dispensary a like number of itinerating trips have been made. All the out-stations of the American Baptist Mission at Ningpo have been visited by the doctor in charge of their hospital. The war, with the subsequent unsettling of the country, prevented some hospitals from doing this work in 1895.

6. Bubonic Plague.

The Tung-kun Hospital devotes much space in its report to an account of the Bubonic Plague there. "The epidemic of plague broke out in December, grew in intensity till it was at its worst in April and terminated in May. In December we heard of many people dying after a brief illness of a disease unknown to the native doctors and which proved to be Bubonic Plague; a fact which seems to show that it had not hitherto been epidemic here. At the same time in the part of the town in which we are located a complete disappearance of rats was noted and on our own pre-

mises several were found dead or staggering about. As a matter of fact, it was not until October that even mice began to be seen again. The disappearance of the rats was recognised as a warning of the Plague. The gentry hastened to summon eminent doctors from Canton and to placard the streets with a description of the disease and recommendations as to its treatment. Some streets were so badly affected that people did not dare to pass through them, and patients from the country who happened at the time to be in hospital were prevented by their friends from returning, for fear of their carrying infection with them."

The three regions most usually affected were the left axilla, the inguinal and the cervical glands. The inhabitants, "finding their own deities unable to render them any assistance, decided to call in the aid of a well known idol, named Chan Sing-yung. This represents a deceased gentleman of the San-ning district, whose image is said to have stopped a dreadful epidemic in Peking in the time of the Emperor Ch'ien Lung. Last year the same good service was said to have been rendered by him in Canton, so that the Tungkunes were full of hope. A special boat was sent to meet him and he was solemnly received by the gentry. The large, "Tungkun Virtuous Hall" was made ready for his reception and there, seated in a golden chair, with a red face and a black beard, he was worshipped by thousands, a low wooden gallery being erected to allow of people of the better class kneeling before him without having their devotions interrupted by the crowd. The relatives of the deceased gentleman, who had already been heavily paid for the privilege of having his idol in Tungkun, carried on in addition a lucrative sale of yellow papers bearing the seal of the god, and also of charms and holy water. Yet after all this the Plague still prevailed and another expedient had to be adopted. On the first day of the fourth moon they celebrated the new year,

Cards of congratulation were exchanged, the gods thanked for the blessings of the past year and the usual New Year's Day rejoicings gone through. The idea was to deceive the malevolent spirits who were causing the Plague, who might be led to think that the year was ended, that their fatal activity had lasted long enough and that now it was time to go away home to their friends. Finally they secured the services of the Buddhist priests to pray to the gods of the "Superior Heavens." A large matshed was erected, with a gorgeously decorated place at one end of it, and there for seven days the priests performed their ceremonies. The upper classes, the so-called Confucianists, have been the leaders and organizers of these superstitious practices, so that their own faith in time of need is but a broken reed. It is interesting to note that, while throughout the Plague Epidemic in Hongkong during the previous year evil rumours directed against the hospital and our work were widespread all over the city, last year so far as we know no word was spoken against us."

7. Evangelistic.

The Schofield Memorial Hospital reports that around the medical work there have grown up several other Christian agencies. "The chapel, which is an adjunct of the hospital, is capable of seating some three hundred people and the average attendance on Sundays is one hundred and fifty, rather more than half perhaps being women. In our Sunday-school we have five classes for women and girls and four for men and boys. A boarding-school for girls has become a necessity as we have practically adopted four little girls. Three of these were formerly slaves. Two of them were so cruelly treated by their owners that they have each lost one foot and all the toes of the remaining foot. Four boys have also been stranded at our doors. One is blind; the second is crippled through rheumatism; the third has only

one leg, as we had to amputate the other for disease, and the fourth is an orphan whose father and mother died in the hospital. These boys form the nucleus of a boys' school, the average attendance at which, during 1895, was thirteen. Through the medical work the ladies now have access to many homes in the city and, as a rule, meet with ready welcome."

The spiritual work in the L. M. S. Leper Home has been very encouraging. Five of the inmates "have already been received into the church and five others are on probation for membership, while there is hardly one who has not signified his desire to become a Christian. One of them, a man named Shü, from the neighbouring county of Yun-mung, led his aged mother into the truth and she was baptized in her own home only a few hours before she was called away to eternal glory. Other members of the same family are deeply interested in the Gospel."

From the report of the Tientsin Hospital we take the following account of what we think is somewhat of a new departure in the work of the Christian church in China:—"As we write this, we are having quite a time of blessing in the hospital. Following the week of prayer: Mr. Pyke, of the A. M. E. Mission, has again been holding a series of evangelistic meetings and our patients and assistants have attended night after night. Dear old Fan was specially in his element. One evening three of our patients were kneeling at the altar, whether any anxious ones were invited to come, and it was a touching sight to see some of these rough men weeping over their sins. One man confided to Mr. Murray that if he went home he would lose his head. They are never tired now of testifying of the blessing they got there. One of these is a poor fellow, half blind with ophthalmia, who had a great struggle to get into the Light. One morning at prayers he said, "At one of these meetings I confessed my sins, I cannot tell whether it is God in my

heart, but of one thing I am certain, that ever since that night when I confessed my sins I feel very happy:" and he looks it too. Another time he said, "I never thought that God would forgive my sins; but now I know that he has forgiven me."

Another man, Li, brought his little boy to the hospital to have a diseased ankle joint seen to and he had to undergo an operation for removal of the necrosed bone. He has been here for some time and always being an attentive listener had got to know much of the truth, but he never seemed to be able to come to the point of decision for Christ. He was very miserable for a time and we found out that it was the fear of some relatives which was keeping him back. On the evening when Mr. Pyke spoke on the text: "God so loved the world that He gave His only begotten Son, that whosoever believeth on him should not perish but have eternal life," this man was deeply touched; there and then he surrendered. He is now rejoicing in his new found hope and all fear of his three uncles has gone.

"Exactly the same point comes out in evangelistic work amongst the Chinese as amongst our own countrymen; it is amongst those who have been taught the truths of the Gospel that the reaping comes. The assistants also got a lift through these meetings, especially Mr. Yang Min, to whose earnestness so much of the fruit-bearing of our religious work in the hospital has been due, during these past years. It is most noticeable that when he is warmed up then the work goes forward. It seems to us of vital importance to do all in our power to influence our native assistants; in them and in their work and testimony amongst the patients lies the successful issue of the work. Mr. Yang has expressed a wish to be allowed to devote all his time to evangelistic work in the country, and with this in view he has been appointed to visit the many former converts who were baptised in connexion

with the hospital. They all know him and have felt his influence here, and it is hoped that great blessings will result from this appointment."

In connexion with the Ningpo Hospital over twenty patients have confessed their faith in Christ. Two patients who were visited in their own homes have also decided for Christ. Both were cases in which the doctor, unable to give anything to cure the body, devoted his time to teaching the dying patients of the love of Jesus. One case is noteworthy in that after two visits and the gift of some tracts the doctor did not see the patient for two months, at the end of which period he found that the man and the Master had met without further human teaching and the Master's love had won the man's heart.

8. General.

In the report of the Schofield Memorial Hospital there are several instances given of the cruelties inflicted on slave girls by their mistresses. We have not space to quote these, but we do quote two cases given in illustration of the principle of responsibility as recognised by the Chinese. "During a street quarrel, a soldier stabbed a civilian who happened to be a Roman Catholic. The officer over the camp to which the soldier belonged was held responsible for what had been done and, fearing a lawsuit and the possible loss of his position, had the injured man brought to the hospital and came himself to ask us to do all we could to ensure his recovery. During the patient's stay in the hospital two soldiers were told off to wait upon him and all expenses were paid by the officer. The injured man made a good recovery and on his discharge the officer presented us with an honorary tablet on which is inscribed "(He) succours the world and gives life to men."

"Not long after, a soldier from the same camp came in a most pitiable condition. For some light breach of discipline the officer, who had been so solicitous for the

welfare of a civilian lest he should lose his position, ordered one of his own soldiers to receive one thousand blows and himself helped to administer the punishment. After receiving the blows the poor fellow was made to undergo five days' punishment-drill and then was allowed to get to us as best he could. In this case the officer took no interest in the patient whatever, for even had the man died he would not have been held responsible. The man recovered, but we received no recognition whatever of our services."

The I-chow Fu Dispensary is to be congratulated on the hold that it has upon the hearts of its staff. "Our assistant, Mr. Yü Tsai-yü, a graduate of the medical class, has been with us now a year and a half and has done good work, both in the dispensary and in visiting patients in their homes. He has established so good a reputation for himself that not long since a wealthy man living in a large market town, some sixty miles south-west of the city, offered to start him in a practice of his own. He offered to furnish him a capital of \$500 Mex., a house large enough for a dwelling and office, and to pay him a salary of \$100 a year and board. As he only receives \$72 a year in his present position and boards himself this was a very tempting offer. In view, however, of the fact that we had been depending on him to assist in teaching a class of students this coming year, and also that he had only had a year and a half's experience since his graduation, he declined the offer and agreed to stay with us another year. What makes the above offer all the more remarkable is that it came from a man whose wife had been treated for Bright's disease, both by Mr. Yü and the foreign physicians, but had subsequently died; her death apparently making no difference in his confidence in foreign medicine."

Why, may we ask in passing, do the staff of this dispensary omit to give their own names in any part of their report?

The following incident from the Chungking Hospital Report, although it has appeared in some of the daily papers, is worth a more permanent record: "Soon after the excitement occasioned by the riots had subsided, we were called to attend Li Taotai, the governor of Eastern Sz-chuan, whose name has been prominently before the world since the riots here, but not in the way many other officials have been. He proved himself the true friend of the foreigner and if it had not been for his untiring energy we most certainly would have suffered the same fate as our Chen-tu brethren. The worry and over-work occasioned by the riotous state of the city and surrounding country proved too much for his already over-worked and feeble constitution. His mind became unbalanced and for over a month he was watched for fear he would attempt to take his own life.

"After going on in this way for several weeks, I was called (by the advice of one of the foreign officials) and asked to take charge of the case. As long as he remained in the yamên as Taotai we could do nothing with him, on account of his attendants refusing to carry out our orders, and we gave up the case.

"As soon as the new Taotai reached here, he was removed to other quarters and again invited us to see what we could do with him. We refused to have anything to do with the case unless they would allow a foreign nurse to stay in the yamên and see that all directions were carried out. They readily consented to this and Messrs. Vardon and Williams went to live in the yamên. After the first two weeks he began to improve and within two months was so far recovered as to be able to return to his home in Kuei-chau."

Conclusion.

The space at our disposal is more than exhausted. Our review of the reports has grown to large proportions. But we think that it will prove to every medical missionary a stimulus to renewed exertion in a field which these reports prove to be one of the most useful and spiritually fruitful of all the fields of missionary service. Should it fall into the hands of those who disbelieve in any form of missionary work other than evangelism, we think that they will find full reason why they should change their views.

G. A. C.



Correspondence.

A MEDICAL JOURNAL IN CHINESE.

Dr. Neal's article in the June number of the Journal certainly merits the attention of those qualified to prepare the books so much needed. But the remark is often heard that a medical text-book five years old is out of date, and while this may not be so true here as in Western countries, where new methods and remedies are so rapidly introduced, still it has some force.

Were it not for our weekly and monthly journals would we not quickly fall behind the medical thought of the times? The new methods and remedies introduced during the last five years are certainly remarkable and valuable, and the same will be true in the future. In order to prevent medical graduates into "degenerating into mere keeping of medicine shops" should there not be a medical journal issued, say quarterly, at a moderate price, besides the text-books suggested by Dr. Neal?

W. F. SEYMOUR, M.D.

T'ang-chow Fu, July 13th, 1896.

Macao, July 18th, 1896.

DEAR DR. HODGE:

I send by this mail my answers to the "Questions on Opium."

I propose a few additional questions, which may or may not be approved.

I would suggest that some of the questions be submitted to the medical missionaries for a period of years (say ten), and that the facts collected in that time be sent to the editor of the journal. I refer particularly to questions 4, 6, 13, 16, 17, 19, 22, 24, all which require definite facts to make up the answers. Few of us have kept records of sufficient extent to furnish answers to these questions; but a system-

atic plan carried out for a period of years would furnish material from which answers could be given which could not be gainsaid. So much that is said on both sides of the opium question is merely opinion or guess work that statements carry but little weight. What is needed is an array of facts which are indisputable and not coloured by prejudice. To make up this array time and careful observation by a large number of individuals is required; if only a dozen men would set to work on this line five or ten years would give invaluable results. I hope you will urge this or some such course on all those who have the means of obtaining the facts.

Sincerely yours,

J. G. KERR.

[We shall all be sorry to hear that Dr. Kerr has been very ill, and pray that the doctor may be soon restored to health.

Dr. Kerr's extra questions are as follows:—

20. How many smokers have you met who *had no desire* to get rid of the habit?

21. If the desire exists what are the chief obstacles to giving up the habit?

22. What proportion of those who are cured of the habit, or who give it up, return to it again?

23. What restrictions, if any, are placed by the Chinese authorities on the sale of opium to consumers?

24. Have you met with women smokers, and if so how many?—ED.]

WILLIAMS HOSPITAL,

Pang-chuang, August 1st, 1896.

To the Editor of

"THE MEDICAL MISSIONARY JOURNAL."

DEAR SIR:

As most of us have occasional need for the services of an optician, having to

prescribe glasses for foreigners, if not for natives, it may be of service to speak of our friend, Dr. U. C. Whitney, of Tokio.

He has recently returned to Japan and resigned his position, held for so many years, as interpreter at the American Legation, in order to devote his entire time to his opthalmic practice and the Scripture Union Mission. This latter, if I remember rightly, was established for the benefit of the jinricksha coolies, largely through Dr. Whitney's efforts; thus, though not under any distinctively missionary board, he is, as always, a missionary in spirit and in fact.

We are all aware that the working opticians in Japan can do very good work, but there are difficulties in corresponding with them; they are also more liable to mistakes than our own grinders. Their prices are

lower, and goods can be obtained in a much shorter time. I think therefore that our colleagues will be glad to know that Dr. Whitney will be pleased to take charge of any such orders and will test the curvations before returning them. He has the apparatus and the skill to determine the refraction of any dioptric which may be ordered, and a note to this effect in the Journal will, I think, be of service to the profession here. I write without the knowledge of Dr. Whitney; if you think best to publish my note it will be well to add his address, which is: 47 Hasemura, Kamakura, Japan.*

Sincerely yours,

A. P. PECK.

[* When in Japan I learnt that Dr. Whitney had just left Kamakura, and that the address most sure to find him is Akasaka Shikawacho, Akasaka Biyōin, Tokio—Ed.]



Correspondence.

N.B.—By an oversight the following Correspondence was omitted from the last No. of the Journal.

McILVAINE HOSPITAL,

Chi-nan-fu, China, February 19th, 1896.

DEAR DR. HODGE.

I should like to announce through the columns of the Journal that I am engaged in the preparation of a text-book on *Skin Diseases*, in Chinese, and shall hope, if all goes well, to publish it within a couple of years. If any one else in China is at work at the same subject I should be glad to correspond with him or her in regard to the matter. I shall also welcome most heartily any suggestions in regard to nomenclature.

Very truly yours,

JAS. B. NEAL.

To the Editor of

"THE MEDICAL MISSIONARY JOURNAL."

DEAR DR. HODGE.

In accordance with your "Editorial" in the December No. of the Journal I wish to make a few suggestions and then present several motions.

I think most of us are quite agreed as to the need of making some amendments to the Constitution and Bye-Laws of the Association.

It occurs to me that probably a fair number of members can be got together at the time of the Triennial Meeting of the Educational Association of China, to be held in Shanghai, beginning the first Wednesday in May next. If circulars are at once sent out to the different members giving the two months' required notice of the changes it is desired to make we shall then be in a position to consider such changes at that time.

In order to facilitate such action I have prepared several motions covering the changes it seems to me desirable to make, and present them as follows:—

1st Motion: That in Article III. of the Constitution, in the sentence which reads, "They shall be proposed, in writing, at a regular meeting," the words "in writing, at a regular meeting," be struck out. And in the sentence following: "and may be elected by a two-thirds vote at the next regular meeting," the words "at the next regular meeting" be struck out and the words "of the members voting" be inserted in their place. Also in the sentence, "They shall be considered members when they shall have signed the Constitution," the words "or sent in their names to be added to," be inserted after "signed." The two full sentences thus changed to read as follows: "They shall be proposed by one member of the Association and elected by a two-thirds vote of those voting. They shall be considered members when they shall have signed or sent in their names to be added to the constitution, thereby agreeing to be bound by its provisions."

2nd Motion: That Article V. of the Constitution be amended so as to read, viz.: "Article V. The officers of the Association shall consist of a President, a Vice-President, a Secretary and Treasurer and an Editor, all of whom shall be elected biennially by a majority of the members voting. No member shall be eligible to the office of President for two successive terms. These officers shall have the power to elect Executive Committees from their own body, or from other active members of the Association."

3rd Motion: That the word "President" in Article IV. of the Bye-Laws be struck out and the word "Association" be inserted in its place.

4th Motion: That Article VI. of the Bye-Laws be amended so as to read, viz.: "Art.

VI. All motions shall be presented with the signature of the proposer, either directly to the Association, or through its Journal."

The above is designed only as a general notice to the president and members of the Association of the nature of the changes it seems desirable to make. It is not necessary to dilate here on the motions presented, as that will be in order when they are presented in a business meeting of the Association.

It is to be hoped that all who can will try and attend the Educational Association meeting in May, so that any necessary business may be transacted and changes be made in the Constitution and Bye-Laws, so as to enable us to do more of our business through our Journal.

H. T. WHITNEY.

Kiungchow, Hainan, China,

December 16th, 1895.

Doctor S. R. HODGE,

DEAR SIR,

The following experience may have occurred to others, but in the ten years that I have been here it has not been mine before. Although I have had midwifery cases amongst the Chinese they have been, with two or three exceptions, those under foreign influence. So I was rather surprised to be called to a village to the north of the city, where the people have not been any too friendly.

When I arrived at the house a male child had been born forty-eight hours, but an examination showed the cord properly tied, the placenta firmly adherent and the uterine tumour very large. I made a diagnosis of "twins" and gave fifteen grains of quinine to start the uterus to work again.

At 9.30 p.m., or twelve hours after my first visit, I was called again and, as the city gates were shut, the five villagers with torches, the hospital coolie with medicines and

I with lantern clambered down the outside of the city wall. As we approached the village everything was lighted up by the burning straw, which entirely surrounded the house and made it impossible for any devils to enter except the foreign one, who kicked away the straw burning in the doorway. This section of the house was used partly as a cow stable and partly as a kitchen; it was so full of smoke from the fires and torches that eyes and throat were very much affected.

Two women were holding the patient on the tub and three men were standing behind cutting the air with old swords; one of the men, holding the patient's hair in his fist, was making continual passes over her head at any unseen demons there. It took about twenty minutes' scolding and pushing to get the place under control. Then the coolie and I lifted the patient on to the trestle which was to serve as bed; as I did so I stepped on some rags and stooping down I found it to be No. 2 baby under the bed on the straw; it was born forty hours after its brother.

All my efforts could not dislodge the placenta, although the two cords were hanging in position.

As the smoke had abated somewhat I had the coolie give the chloroform (Report of British Medical Association on Chloroform notwithstanding) and the constriction at the cervix yielded; with left hand on the abdomen pressing from above and right hand in the uterus, after about five minutes' work with nails and fingers, the placenta was peeled off and, by massage outside and fingers inside, the uterus was cleared of clots and reduced to proper size. The two placentæ were firmly attached to each other, although the two cords were separate. Both children were boys and alive; the second child had been a breach presentation.

The chloroform, etc., inspired the old midwife, so while her state of admiration continued I gave her about ten minutes' instruction in the use of hot water. If it

had not been for pretty plain talking the people would have put the patient right back on the tub, even after the uterus was clean.

By eleven p.m. the pulse had fallen to proper limits. When I left the house a procession of villagers with torches accompanied me as far as the city wall.

The natives consider it very unlucky to have twins and if one of them is a girl she is not likely to live. In this case both are boys; I hope that the mother will have milk and both children will be allowed to live. I am also told that in case of triplets none of the three are allowed to live; it is so very unlucky. I do not know positively that these assertions are true.

Very sincerely, etc.,

H. M. McCANDLISS, M.D.

DEAR DOCTOR HODGE,

We have to thank you for last number—December—of Journal, which has just come to hand. Your remarks about the changes which should be made in the Constitution and By-laws are very much to the point.

It may interest you that a number of doctors have been recently "decorated" by the Emperor for their services in connexion with the Red Cross work.

Enclosed the list as given in the Edict.

Yours truly,

B. C. ATTERBURY.

March 12th, 1896.

Drs. DEPASSE	} <i>For services to Vice-roy Li in Japan.</i>
„ SCRIBA	
„ ATTERBURY	} <i>Second of the Third Class.</i>
„ IRWIN	
„ FRAZER	} <i>Third of the Third Class.</i>
„ SMITH	
„ HEWSTON	
„ CHRISTY	
„ DALY	
„ PENNEY	
„ BRANDER	
„ GRAY	
„ DOUTHWAITE	

Kindly make correction in next Journal. At Dr. Kin's request I enclose copy of what he wishes.

In the last number of the Journal Dr. Kin was put down as being connected with the Viceroy's Hospital. This is a mistake, as the doctor has been, and is still, connected with the Military College of Tientsin.



Notes and Items.

FOREIGN NURSES FOR CHINESE HOSPITALS.

Nursing is the weak point in most of our hospitals in China. In some it does not exist at all, the more serious cases among the natives being usually accompanied by friends who remain to act as care takers. Christian ladies from our own country having a passion for nursing the sick would here find room and scope for the exercise of their talents and, in addition to engaging in the work themselves, might also train native Christian women for doing so. The very perfection to which the art is now carried at home is hardly, perhaps, the best preparation for heathen lands, where it would be impossible * to follow out minutely all that is considered essential in a British hospital. Still, the cleanly habits and gentle hands of an efficient but not too highly-trained nurse would be a constant object-lesson to the poor sick people; and a sweet, kindly, good-tempered, versatile Christian woman, willing to take things as she finds them, and do all in her power to ease the sufferings and promote the comfort of her patients, would be a boon and a blessing to every mission in which medical work has its proper place.

It would be trying work, at least at the outset. The Chinese as a people are not only ignorant but conceited and self-willed, and sickness does not render them more amenable to laws and regulations. The key to successful work amongst them lies in unfailing good-humour and inexhaustible patience. With these qualities, however, and the combined exercise of gentle firmness and persuasive love, such workers would soon feel at home

* [We must enter an emphatic protest against the word "impossible."—ED.]

with their surroundings, and have confirmation of their mission in not only the gratitude but affection of those under their care.—*Dr. P. Anderson of Formosa in the Edinburgh M. M. Society's Quarterly Paper.*

CHINESE BARBARITY.

"A man came in one day and told me that two women in his household had quarrelled and had taken poison; one had died and he feared the other would also die. I gave him an emetic and the required antidote. Then he said, 'There's one case more in my family.' 'What is it?' I asked. 'My sister-in-law is in labour,' he said, 'and is very bad. One leg presented and the midwives, in trying to deliver the child, *pulled that leg off*, and the child receded. Can you give me any medicine for *that*?' I was horrified, and said: 'No, there's no medicine for *that*; the only thing that can be done is for me to come with an assistant and chloroform the woman and deliver the child.'

"What," he said, "take the child yourself?" I replied, "There's no other way." "That certainly can't be," he answered; "the woman can die, but that a man should treat her is impossible."—*Dr. Randle of Ping-tu in the Medical Missionary Record.*

"Let me but tread

The path my Saviour sanctified—the path
Which Brainerd, Mills and Obookiah trod—
The path of usefulness; then let me die
Or on the couch of lingering disease,
Or by the stake of painful martyrdom,
Or in some wilderness, with none to close
My eyes or watch my dying agony;
And let these weary bones find their repose
Or in some place of solitude and peace,
Or on the coral caves of ocean's bed,
Or let my ashes be the sport of winds;

Thus shall I strike with thee, lamented youth,
'The high-toned harp of heaven;' thus shall stand

Before that throne of glory, where the Lamb
Beams happiness on all his followers."

LEONARD BACON.

THE RELATIVE VALUE OF LIFE AND LEARNING.

Few people appreciate what has been the cost of the scientific facts on which our civilization is based. It is only when one reads the history of the development of a science that he can realize the immense expenditure of labour and of life which it has required. Often even the statements which the ordinary reader passes over, as being too insignificant or too obvious to merit attention, have cost some one years of toil or, perhaps, his life. If the pages of a text-book were marked, like Alpine passes, with a cross at every point where some one has sacrificed his life, we could see how scientists have valued the knowledge which we, perhaps, do not care to learn. The martyrs of science are not less numerous than those of religion; nor are they less glorious since they died in the same cause—the pursuit or the promulgation of ideal truth. Rarely fortunate is either martyr if by his death he accomplishes his purpose. Usually his sacrifice marks a failure, not a triumph.

It must not be supposed that instances of self-immolation on the altar of science are rare; on the contrary, they are of daily occurrence. A biologist who wishes to study the life history of the tapeworm grows one in his own body; a physician ruins his health by experimenting on processes of digestion in his own stomach; a geographer risks his life to get a barometric reading; a bacteriologist inoculates himself only too successfully with a disease germ; a sanitarian, in order to test the effect of decomposed organic matter on the human system, drinks sewer water for a month; a chemist works for years on compounds

so explosive that the careless touching of a few grains would kill him. Such are the common events in the scientific world. No investigation is given up because it is dangerous. There are scientists in almost all lines who work day after day, quietly and doggedly, in more danger of their lives than a soldier in war time. The outside world knows nothing of this; and, if it did, would laugh at them for madmen. It may safely be said that if it were known that an important scientific discovery, say one which would fill a few lines in some large manual, could be made, but only at the cost of the life of the investigator, there would be no lack of volunteers.—*Prof. Slosson in the Independent.*

CAPABILITIES OF THE CHINESE.

There is at the foundation of the Chinese civilization and of the Chinese national character a nucleus of moral worth and intellectual capabilities which may come to the front again. When the walls break down which separate China from the rest of the world, so as to give the Chinese a chance of learning from us all they can, it is very doubtful what the result of a free competition with the Chinese would be. Their imperturbable patience, their endurance, their steadfast character, their pious reverence, their respect for learning, should not be underrated. If these virtues are but turned in the right direction and tempered by that breadth of mind which is indispensable for progress, the Chinese will soon recover; and nothing is more apt to produce a national rebirth than hard times, trials, and humiliation. China is offered in her recent misfortunes the chance of a spiritual rebirth. Should she avail herself of this opportunity she would, with her four hundred millions of inhabitants and her untold virgin resources, at once take a prominent rank among the nations of the earth; and her civilization might become strong

enough to influence and modify our own.—*Dr. Paul Carus in the Monist.*

BRITISH MEDICAL MISSIONARIES.

The service of Christ by the medical profession of Great Britain and Ireland is represented this year—1895—on the foreign mission field by 187 men and 39 women. As there are over 30,000 men and 250 women who possess British qualifications, it cannot be said for the former that their representation is more than a slender beginning. The women present a striking contrast, and if they can keep up the present proportion they will have deserved well of the Church of Christ. It is true that the pressure for the medical education of women had an intimate relation in the minds of one portion of the public with the needs of the foreign mission field, but even so the contrast is still too glaring to be anything but complimentary to the zeal of the men. Of the 29 new names which appear in this year's list, 17 are those of men and 12 those of women. After deducting the losses for the year, the whole number stands at 216.—*Medical Missions at Home and Abroad.*

CHANGED ATTITUDE.

One result that was produced upon the minds of the commissioners sent by the American government to investigate the riots at Cheng-tu in the province of Sze-chuen is thus stated by the late Colonel Cockerie, the correspondent of the *New York Herald*: "Commander Merrell, who has hitherto shared some of the antipathy naturally entertained in the United States Navy toward missionary workers, informed me to-day that the trip to Cheng-tu had caused him to modify his views materially. He had doubted the sincerity of many missionaries and had been inclined to believe that a number of them found better livings in China than could possibly have fallen to them at home. He saw no place in all his great journey where he could be induced to live for any

length of time, no matter what the compensation. He saw something of the sacrifices made by the missionaries in remote China. He saw and noted their zeal, their earnestness, and their untiring industry. He envied no one of them. He realized that they earned the remuneration allotted them, over and over, and his sympathies went out to them. Upon this point I may say that the Commission is absolutely unanimous."

THANKSGIVING.

One thanks God that he knows not sorrow's touch;

One for the sure increase of honest gain;
One for life's sacred friendships, such—and such!

And one dares thank Him for the scourge of pain.

C. M. PACKARD in the *Independent*.

It is with great regret that we have to chronicle the death of Dr. Ernest Paul Turner, M.R.C.S., L.R.C.P. (London), of the London Mission, Hankow, whose name was only proposed in the last No. of this Journal as a member of the Society. Dr. Turner, the son of an old Hongkong L. M. S. missionary, was born in China, and lived there till he was 17, when he went to England. His medical education was gone through at St. Bartholomew's Hospital and after qualification he held, for some time, the post of House Surgeon to the Bethnal Green Hospital under Dr. Gauld. He arrived in Hankow last February, and at once got to work, taking over the L. M. S. hospital which had been left vacant by Dr. Gillison's return home last autumn. On Dr. Gillison's return in the early spring he gave himself more entirely to the study of the language, in which he was making good progress. Early in June both he and Dr. Gillison contracted typhus fever from a number of patients ill with that disease in their hospital; they both fell ill on the same day. At first his seemed the milder case of the two, and good hope was entertained that he would do well. But about the seventh

day a change for the worse appeared, violent delirium and hyperpyrexia; despite all that could be done he sank somewhat rapidly and died June.—During the short time he was in Hankow he had endeared himself to all by his gentleness, earnestness and unobtrusive goodness, and his memory will long be fragrant.

Dr. Gillison, we are glad to say, slowly recovered, but was left so weak that he had to leave for Japan at once, so as to avoid the hot Hankow summer. Our last reports of him were very favourable, and we hope soon to see his cheery face once more amongst us: the absence of Ji Yi-sen means much to the Chinese of Hankow and its neighbourhood, where he is widely known and deservedly loved. Our deepest sympathy is with Dr. and Mrs. Gillison in this fresh trial.

The many friends of Mr. J. D. Chang, of the Shanghai Dispensary, will be glad to know that the Viceroy Li Hung-chang, when passing through Shanghai on his way to Europe, presented him with a gold medal and a certificate: the gold medal bore the following four characters:—

調 備 精 頁

By the kindness of Dr. Lalcaca, of Shanghai, we are able to reproduce a literal translation of the great Viceroy's testimonial. We congratulate Mr. Chang most heartily. We can testify, from personal knowledge, to Mr. Chang's courtesy and ability, and can confidently recommend him to our many friends. The testimonial reads as follows:—

In very ancient times the doctor and the medicine were both very important subjects.

Dr. Pay's (班孟堅) first intention, and even principal idea in completing his medical work, was to have all the medicines arranged properly. Dr. Lee (呂氏春秋) in his books, stating the famous doctors, prescribes the medicine in various ways and says

that, as the symptoms of disease vary by hundreds of forms, the medicine also is to be varied in a hundred ways.

Further on he says good medicine will save life and bad medicine will kill it.

Foreign chemists treating their medicines according to the laws of chemistry, take out efficacious alkaloids and substances for their preparations and throw away the useless parts. Thus the pharmacist often turns the very poisonous medicines into very safe ones, and very minute doses of the medicine will answer for all purposes, and therefore the preparing of the medicine is more important for the patient than the doctors are.

Mr. J. D. Chang, of Ningpo, employed by the Shanghai Dispensary as manager in their manufacturing department for a number of years, is a fine Chinese scholar, and possesses a very good knowledge of chemistry; and all the pharmaceutical preparations and specialities of that establishment made by him are excellent. They are well known all over China.

I think his enterprise is an eminent work. In February of 1896 I was passing through Shanghai on my way to Russia as special ambassador. I wrote this to certify Mr. Chang's ability and his skillful knowledge of the healing art.

Signed and sealed,

LI HUNG-CHANG.

BIRTH.

At Western Hills (Peking), on June 29th, 1896, the wife of Dr. J. H. INGRAM, A. B. C. F. M., of a daughter.

DEATH.

At Chu-wang, Honan, August 5th, of meningitis, MARGERY FINLEY, infant daughter of Dr. and Mrs. McClure, of Canadian Presbyterian Mission, aged seven months.

DEPARTURE.

From Shanghai, 13th June, Dr. KATE WOODHULL.

[The following circular reached us too late for insertion in the June No. Although the congress is over we publish it, because (1) some members, wishful to become members of future congresses, may be glad to know particulars, and (2) because, as a volume of transactions is almost sure to be published, members wishful to obtain the same will be glad to know the contents.—Ed.]

Third International Congress of Dermatology.

23, LOWER SEYMOUR STREET,

PORTMAN SQUARE,

London, W., May 20th, 1896.

DEAR SIR,

I should be greatly obliged if you would kindly have the accompanying Programme of our Proceedings inserted in all the medical papers of your country as early as possible.

Please add—

1st. That it is specially requested that all medical men wishing to become members of our Congress should communicate at once, either directly with me as General Secretary, or with you as Secretary for China. It is extremely important from many points of view that the Executive Council should know as soon as possible how many visitors may be expected.

2nd. That the fee for membership (£1 sterling) may be paid in advance, either to you or to me, or may be paid at the date of the Congress in London.

3rd. That all particulars with regard to hotels, etc., and all other information respecting the Congress, can be obtained from me at the above address.

With kind regards, believe me,

Very sincerely yours,

J. J. PRINGLE,
Secretary-General.

Dr. MACLEOD, Shanghai.

THIRD INTERNATIONAL CONGRESS OF DERMATOLOGY.

To be held in London,

August 4th to 8th, 1896.

PROGRAMME.

DERMATOLOGY.

SYPHILIS.

Tuesday, August 4th.

11 a.m.—Preliminary Business.

12.0—Presidential Address.

3.0 p.m. Subject:—"Prurigo."

1.—Dr. Besnier (Paris). 2.—Prof. Kaposi (Vienna). 3.—Dr. J. C. White (Boston, U.S.A.) 4.—Dr. Payne (London).

Wednesday, August 5th.

9.0 a.m.—Clinical Demonstration of Cases.

10.30 a.m. Subject:—"The Etiology and Varieties of Keratosis."

1.—Dr. Unna (Hamburg).
2.—Dr. H. Brooke (Manchester).
3.—Prof. V. Mibelli (Parma)
4.—Dr. W. Dubreuilh (Bordeaux).

10.30 a.m. Subject:—"Syphilitic Re-infection."

1.—Prof. Fournier (Paris).
2.—Prof. Lang (Vienna).
3.—Mr. Alfred Cooper (London).
4.—Dr. Fitzgibbon (Dublin).

2.0 p.m.—Clinical Demonstration of Cases.

3.0 p.m. Papers.

3.0 p.m. Papers.

Thursday, August 6th.

9.0 a.m.—Clinical Demonstration of Cases.

10.30 a.m. Subject:—"The Connexion of Tuberculosis with Diseases of the Skin other than Lupus Vulgaris."

- 1.—Dr. J. Nevins Hyde (Chicago).
- 2.—Dr. Hallopeau (Paris).
- 3.—Dr. Radcliffe Crocker (London).
- 4.—Prof. G. Riehl (Leipzig).

10.30 a.m. Subject:—"The Duration of the Period of Contagion of Syphilis."

- 1.—Mr. Hutchinson (London).
- 2.—Prof. Campana (Rome).
- 3.—Prof. Lassar (Berlin).
- 4.—Dr. Feulard (Paris).

2.0 p.m. Subject:—"Ringworm and the Tricophytons."

- 1.—Dr. Sabouraud (Paris).
 - 2.—Prof. Rosenbach (Göttingen).
 - 3.—Mr. Malcolm Morris (London).
- Contributions to this debate are promised by Dr. Unna, Dr. Colcott Fox, Leslie Roberts and many others.

Friday, August 7th.

9.0 a.m.—Clinical Demonstration of Cases.

10.30 a.m. Subject:—"The Nature and Relations of the Erythema Multiforme Group."

- 1.—Prof. de Amicis (Naples).
- 2.—Dr. T. H. Veiel (Stuttgart).
- 3.—Dr. Prince A. Morrow (New York).

4.—Dr. Stephen Mackenzie (London).

10.30 a.m. Subject:—"Malignant Syphilis."

- 1.—Prof. Haslund (Copenhagen).
- 2.—Prof. Neisser (Breslau).
- 3.—Prof. Tarnovsky (St. Petersburg).

2.0 p.m.—Clinical Demonstration of Cases.

3.0 p.m. Papers.

3.0 p.m. Papers.

Saturday, August 8th.

9.0 a.m.—Clinical Demonstration of Cases followed by Papers.

SPECIAL NOTICE.

Notice is hereby given, in accordance with the Constitution, that the following alterations in the Constitution will be proposed in the December No. of the Journal and submitted to the votes of the Association :—

A. Dr. Whitney's three propositions (see letter in Correspondence).

The following amendments will be moved to Dr. Whitney's proposals (provided they find a seconder) by Dr. Hodge and seconded by Dr. Boone, viz :—

(1). In Dr. Whitney's amended Article III. to alter the words "elected by a two-thirds vote of those voting" to "by a majority of those voting."

(2). In Dr. Whitney's amended Article V. to add, after the word "Treasurer," "an Editor and a Curator of the Museum;" to add, also, after the word "Association" in the last sentence "to fill up any vacancies (caused by death or otherwise) in the executive of the Association and to take initiative action in all matter affecting the welfare of the Association."

Dr. Whitney's 3rd and 4th motions will be seconded by Dr. Hodge.

B. Dr. Hodge will propose and Dr. Boone will second.

(1). To add a new article to the Constitution, viz :—

Article VII. "That every President on retiring become an Honorary Vice-President of the Society for life."

(2). To amend rule 2 of the By-Laws by the addition of the words "in the absence of both President and Vice-President the meeting shall elect its own Chairman."

(3). To amend Rule 3 of the By-Laws by the insertion of the following words after the word "Constitution," viz., "notify in writing new members of their election, keep a roll of all three classes of members and publish a revised list annually in the Journal."



Official Notices.

The following ladies and gentlemen have been elected members of the Association:—H. L. Canright, M.D., University of Michigan, U.S.; David Rankine, M.A., M.B., C.M., Edinburgh University; Ethel M. Gough, L.S.A. (London); John M. Dalziel, M.B., C.M., Edinburgh University; Eleanor Chesnut, M.D., Women's Med. College, Chicago, Ill.

As some mistakes have crept into the Indices the Editor will be glad if any members who note such will forward him a memo of the same.

Attention is called to the election of officers for 1897-1899. A perforated voting paper is appended to the front of the present volume.

Dr. Macklin having resigned the Treasurership, Dr. Main has kindly consented to act.



MARY STONE, M.D.

IDA KAHN, M.D.

The
China Medical Missionary Journal.

VOL. X.

DECEMBER, 1896.

No. 4.

Original Communications.

[No paper published or to be published in any other medical journal will be accepted for this department. All papers must be in the hands of the Editor on the first day of the month preceding that in which they are expected to appear. The editor cannot undertake to return manuscripts which are sent to him. A complimentary edition of a dozen reprints of his article will be furnished each contributor. Any number of reprints may be had at reasonable rates if a *written order* for the same accompany the paper.]

DRS. IDA KAHN AND MARY STONE.

While an increase in the number of medical missionaries at work in China is *always* a cause of encouragement to those already in this field, there are reasons why the arrival among us of Dr. Mary Stone and Dr. Ida Kahn excites especial interest.

Ever since the departure of these Chinese girls for the United States, over four years ago, their career in that country has been watched with great interest by many in China, as well as by a host of the interested and curious in America.

When, with many American students, they took the examinations that are required of all who enter the medical department of the University of Michigan, it was a great surprise to the authorities of the University to find that the papers of these little foreigners were among the best that were presented. They had been nearly all their lives under the immediate personal care of Miss Gertrude Howe and, for some years before they went to America, were being educated with that end in view.

While in the United States they did not wear Chinese clothing, but by keeping house for themselves they were better able to retain their native characteristics than they would otherwise have been. They were loved and respected by their fellow-students for their sterling Christian qualities, whilst their conscientious work and high grade of scholarship brought them into favour with all of their instructors.

The fact, that two Chinese girls were making a fine record in a medical college of high grade, caused them to become widely known through the press and, in varied phrases, the wonder was constantly expressed, "*Can any good thing come out of China?*"

They graduated in their native dress and when, in the procession of over 400 graduates, fifty-eight of whom were medics, these Chinese girls crossed the platform to receive the diplomas which testify that they have earned the degree of M.D., the great audience in University hall showed their appreciation by a burst of applause.

President Angell said to the friends of these girls, "Their future career will be watched with every expectation of their eminent success."

They spent the summer after their graduation in further research and experience in Chicago.

Although the appreciation of their student efforts was gratifying to their friends and patrons there was still considerable anxiety as to their reception by the Chinese on their return to Kiukiang. When it was known that they might soon be expected their Chinese friends laid plans for receiving them with honour. The missionaries had at first some doubts as to the wisdom of allowing a public ovation to two young ladies, but their native friends pressed the point and gained the day. As soon as they were seen to be leaving the steamer the fire-crackers were heard and, except during the ride through the narrow city streets, there was no cessation until they were within the doors of their old school home.

The long continued firing attracted the natives, of course, and by the time the newly-arrived doctors reached the Bund there was a large crowd that constantly increased. Word went from one to another, until all around the natives were crowding and pushing to get a glimpse of the "women doctors." Some in the crowd were heard to say, "Why these girls are receiving more honour than was shown to our commandant when he arrived!"

As the company made their way slowly along the Bund through the crowd, the Chinese pressed up close to the chairs of the missionaries and asked over and over again, "Are they Chinese women?" "Is it true they have been studying or four years in a foreign land?" "In what country were they?" "Can they heal the sick?" And then there was vigorous nodding of heads, and "Hao! Hao! Hao!" was heard on all sides. "Will they live in Kinkiang?" was asked, and the affirmative reply pleased them. It seemed at the time remarkable that in so dense a crowd the universal expression of face and voice indicated only favourable interest.

It had been the plan of the girls and their friends that they should rest and visit for a short time after returning and then, as they could gain the confidence of the people, gradually feel their way into work. It had seemed so certain that this would be the only way in which to proceed, that no provision was made for the immediate opening of work.

But lo! on the third day after their arrival four patients presented themselves and asked for treatment. On the following day the same four

returned and six new ones came ; and so it has gone on day after day until now a dispensary is in hasty preparation, so that they may work to greater advantage. The largest number of patients in any one day has been twenty, yet it was only on the 5th of October that they reached home.

When they had been back for about a month they were one evening sent for to attend a woman in confinement. She had twins, but as soon as one child was born all action ceased and the Chinese were at a loss to know what to do. On arriving at the house the young ladies found there the native doctor of highest repute in the city. He was richly clad in satin and silk and had four chair bearers, but he told the people he could do nothing for the woman. He received the girls pleasantly and, after a little, took his departure, advising the family to put the patient into the hands of the lady doctors. He said, "They have crossed mountains and seas to study about these matters."

The people asked the doctors to guarantee that the woman would live. Of course they promptly refused to do this and after some parleying turned to go. Then the aged members of the family fell on their knees and begged them to stay and told them to do what they thought best. The second child was safely delivered and with its mother continued to do well, but the first child died.

Three days later Drs. Stone and Kahn were invited by this grateful family to a feast, after which they were wound about with red scarfs by the old grandmother, and the whole family escorted them home with gifts amid the firing of many crackers.

They have not, up to the present time, had to endure the pain of losing a patient, although they have had several very serious cases. When that does occur, as of course it must, there will doubtless be some reaction and present faith may be changed to distrust for a time. But the most hopeful had not dreamed of their commencing work without some opposition and that they were actually sought, before making any effort to secure patients, has been a great surprise to all.

This early success is doubtless due largely to the fact that they are back among their own people as *true Chinese* and, while they have gained much in culture and intellect, love and sympathy for their race have been ever present, whilst the ruling motive in all their efforts has been how to best prepare themselves to help their countrywomen. The native women do not stand at a distance to admire them, but familiarly take their hands and feel their clothing and, while acknowledging their superiority, do not hesitate to invite them as guests to their humble homes.

Dr. Stone was the first girl in Kiukiang whose parents allowed her to go always with unbound feet. Her father is a preacher in the Methodist Epis-

copal Church ; before her birth her parents said that if God gave them a little girl they would never bind her feet.

Dr. Kahn, when a few weeks old, was given by her parents to Miss Howe, by whom she was adopted.

In a few months a woman's hospital will be erected in Kiukiang to be in charge of Drs. Kahn and Stone. They live in native style, in the home that has been provided for them and over which Miss Howe presides.

It will be of interest to all Christian workers to know that these girls have voluntarily pledged themselves to *give* their services for four years to the society to whom they are indebted for their education. The help of personal friends enables them to do this.

MEDICAL NOMENCLATURE.

To some of us it seems that by far the most pressing question for the members of the Association just now is that of Medical Terminology, and the following list of terms is published in the hope that it will stimulate work in this direction. Until some agreement on the subject is arrived at, teaching, translation and the proposed Chinese Medical Journal are all hindered, and the longer the delay the greater the difficulties of changing the present terms that have proved unsatisfactory.

Many have been engaged in teaching for some time and are in a position to present criticisms and suggest changes. Will all such not see to it that they set apart as much time as possible this autumn and winter to this subject and send in the results to Dr. Kerr? Surely considering how important it is for all of us that this obstacle be removed from our path it is not too much to suggest that we should consider it for the present as important *at least* as teaching our students and arrange that it shall receive as much consideration. If all put their shoulder to the wheel we should see the way fairly clear by next year.

The following list of criticisms and suggestions is based on Dr. Kerr's Vocabulary of Diseases, and can only be intelligible by referring to it, but in compiling it Hobson's, Hunter's and the Anglo-Japanese lists were consulted, and also Morley's suggestive paper published in the journal a year ago.

If Dr. Kerr had printed all the terms used by these authorities, indicating which he preferred, an enormous amount of labor on the part of the rest of us would have been saved. In subsequent lists this plan should be followed.

In selecting terms six plans have occurred to me :—

1. Use the existing native term.

2. Translate the foreign term.
3. Transliterate the foreign term.
4. Coin a new one based on, *e.g.*, the symptoms, etc.
5. Coin a new Chinese character.
6. Use an appropriate or indefinite or obsolete Chinese character.

Let us briefly consider these :—

1. Such native terms as can be discovered are often too colloquial or popular, and what we want is, if possible, one character to be used as the generic name.

2. This is sometimes feasible, more frequently it is impossible, or the resultant phrase is too long or too clumsy.

3. Transliteration should be avoided if possible.

4. Sometimes answers, but difficult to be terse enough.

5. The Chinese naturally object strenuously to this.

6. In many cases we must fall back on this plan. Where there is no native term or it is unsuitable or where translation is not feasible, the judicious selection of a character whose meaning will fairly correspond, and yet which is not appropriated to any disease, although it is often an obsolete one, will frequently solve the difficulty. There are many of these characters given under 疔 in Khang-hi.

In translating names or in coining new ones care should be taken to avoid those based on pathology or ætiology, as they will be antiquated in a few years. It is better to be as non-committal as possible.

It only remains to be said that in the following list as a rule the term first following the English letter press is the one preferred.

PHILIP B. COUSLAND.

Abscess—瘡 is more a sore, eruption, wound, etc. If it is not too late in the day I think 腫膿 or 積膿 would be better. (腫, according to Khang-hi includes the idea of an abscess).

A. alveolar (gum boil) 腫膿窩牙, not 癰齦.

A. metastatic 腫膿串.

Ulcer. Why has 瘍 been passed over? One character is better than two, and this is the one used by Khang-hi. 瘡 is too general a term, and especially if used for abscess should not be used for ulcer.

Ulceration 瘍潰, 爛潰.

Ulcer, spreading 潰瘍.

„ indolent 頑, weak 弱, irritable 痛.

Granulations 芽肉.

Phagedena 瘡, or 疥 if a special character is wanted. 瘍毒 where due to poison. Otherwise say virulent ulcer 瘍惡 according to Khang-hi, and if the use of 惡 had better be avoided use 厲.

Sphacelus 脫質死, 塊質死.

Slough 質死.

Malignant, *i.e.*, dangerous to life 險.

Virulent 厲, 惡, 癰

Carbuncle 癰.

Malignant pustule 癰毒, 癰性, 癰

Pyæmia 瘡申毒血.

Tumor, benign 性良 is simpler than 毒無. Malignant 厲, 險.

Myeloid 珠大 is less misleading than 髓. Myeloid or Myeloma is now classified as a sarcoma.

Recurrent. Does not 覆翻 convey the idea of coming and going? say 發再 or 瘤疹.

Dermoid 瘤袋裏皮 or 瘤袋皮生.

Polypus, gelatinous, probably are œdematous connective tissue tumours 瘤軟帶, 瘤筋軟帶.

Papilloma 瘤瘰.

Carcinoma 毒 should not be used in this sense. C. are not poisonous, and 毒 should be restricted to that. Why not take 疽 and limit it to this class of tumors? According to K. it is deeper and more 惡 than 癰, and undoubtedly often is used for cancer in native books. 疔 or 疔 may do if 疽 is not suitable. 疔 is mammary cancer, and would do for the general term carcinoma.

Sarcoma 瘤肉 is translating the antiquated term which pathologists would gladly get rid of. I suggest embryonic tissue tumor 瘤珠胚 or 質纖胚 or 瘤胚 or for one character 疔.

Myeloid S. 瘤胚珠大.

Epithelioma 疣 would do.

Skin Diseases :—

Eruption. I would follow Morley here 瘡.

Macula 癍, given by K. and M., as far as I can find out, means a cicatrix.

Macula includes petechiæ. Take 癍.

Papula 粒 will do 瘡粒.

Vesicle 疱 and not 泡.

Pustule, *i.e.*, purulent vesicle, develops from vesicle 疱膿.

Bulla. No special term needed, = large pustule.

Wheal 團 may do.

Tubercle 疣.

Crust 痂.

Scale, squama. M. has misread Kerr's term 鱗.

Excoriations 肌.

Fissures 裂皮, 皸.

Cicatrices 癍.

Pigmentation or leathery infiltration. Descriptive phrase will do.

Acne 瘡暗 is not good. 炎核油 too long and indefinite. 瘡, 疔, 瘡, are near enough. Prefer 瘡, or perhaps 瘡 would be still better.

A. indurata 硬. A. vulgaris 常.

Albino. M.'s term = dandriff here! K.'s term too colloquial. Take 症體白.

Alopecia 癢. A. areata 塊癢.

Bromidrosis 汗臭.

Hyperidrosis. See M.

Callosity 胼, 鱗.

Corn 鱗釘, or 胼釘 would do.

Cheloid 瘡 is a misprint; should be 瘡 (M.) a scab. K.'s term hardly scientific.

Say 瘤瘡. Practically always arises from a lesion, however slight. On the whole M.'s term is safer.

Chilblain 瘡凍, 瘡凍. No need to call it an erythema.

Chloasma 黧.

Comedones 條脂, 條核脂.

Dandriff, K.

Dermatitis herpetiformis 炎瘡皮.

Ecthyma 瘡, 瘡.

Eczema. I do not agree with M. that because a character is used colloquially it cannot be used for our purpose. Any way 瘡 is not colloquial with us. It is certainly the character for eczema.

Papular 瘡粒. Rubrum 瘡紅.

Vesicular 瘡疱. Impetiginoides 瘡疱膿.

Squamosa 瘡鱗. Sclerosum 瘡硬.

Verrucosum 瘡瘡. Erythematous 瘡瘡.

Ephelis 黑癍.

Erythema. Much more appropriate than 癰 is 瘡. It is used in native books of the patches of leprosy.

E. multiforme. Can't see the point of 癰對. Take 瘡雜. Varieties of E. multiforme can be named according to their characteristics.

E. nodosum 瘡疣.

.Peliosis 瘡癰瘡.

E. Iris (Herpes Iris) 瘡華.

Intertrigo is not a true erythema. Erasmus Wilson calls it eczema erythematousum. 瘡向 or 炎向皮.

Herpes and Ichthyosis. M.'s terms.

Impetigo contagiosa 疱膿染 or 疱膿瘡

Lentigo 癍曬, 墨.

Leucoderma 皚.

Lichen 瘤 will do pretty well. See Kh.

L. rubra (planus) 瘤紅.

L. scrof. 瘤瘰.

L. circumscriptus (if a lichen) 瘤錢.

L. pilaris, not a lichen.

Lupus 癩 (M.'s) may do.

L. verrucosus 癩癢.

L. exedens 癩噬.

L. erythematosus 癩癰.

Miliaria 疱汗.

Milium 粒脂.

Molluscum contagiosum 疣染 or 疣瘰.

„ fibrosum 瘤軟筋.

Mole 痣.

Nævus 痣血.

Papilloma neuroticum 癰筋膠.

Pemphigus. M.'s term may do.

Petechia 點癍瘀, 點癍血.

Pityriasis 皴.

„ rubra or primary exfoliative dermatitis 皴紅.

P. rosea 皴錢.

Porrigo is obsolete.

Prickly heat is a papular eczema, which see. Popular term = 癩熱.

Pruritus 癢.

Prurigo (Hebras) 癢胝

Psoriasis. M.'s terms.

Purpura 癍瘀, 癍血.

Rash 疹 if it is not used for any of the exanthemata, or 癩 if the other is not available.

Rodent ulcer 瘍噬.

Roseola 紅瑰玫, 疹紅, 癩紅.

Rupia 癰釘, 瘡疔.

Scabies 疥 is unquestionably the right term.

Scleroma and sclerosis are much the same 硬變.

Scleroderma 皮硬 is a descriptive term, and needed to describe some infiltrations. Take 釘, e.g., 釘蠟 and 釘胎.

Seborrhœa 痲核油.

Steorrhœa omit.

Sycosis 瘡鬚 or 症瘡膿鬚.

Syphilides, Syphiloderma 症皮瘡, and for the various forms see the skin diseases they resemble, e.g., Pustular syphilide, etc.

Tinea, Reserve 癬 for Tinea.

„ Favosa 癬黃.

„ Trycophytina tonsurans, circinata 癬錢.

„ Versicolor 癬團.

„ Imbricata 癬暈.

Trichosis. M.'s term Williams gives as woman's coiffure. Khang-hi is indefinite.

As neither 髮 nor 髻 will do take 毛.

Hersuties 毛多.

Trichorexis nodosa 毛節.

Urticaria 癩團. 密 and 熱 for the varieties. Chronic or perstans | | 久.

U. papulosa (lichen urticatus) 癩團粒.

Verruca 癩.

Leprosy 瘋癩 is objectionable on several grounds, i.e., the use of two characters and the use of 癩 which is appropriated by measles, etc. There is a good deal in M.'s suggestion to use 瘰 if it is not taking too great liberties with Chinese character. Kh. says that 癩 was formerly used, but 瘰 is the proper character. How would 瘋 alone do? It originally meant megrim, but is applied to leprosy and a good many other diseases now.

Tubercular 瘋癩.

Trophoneurotic 瘋筋腦, 瘰筋腦.

Anesthetic leprosy is not a good term, as anesthesia is present to some extent in tubercular leprosy.

Macular. Can use such terms as 癩. 癩, according to the appearance.

Elephantiasis. M.'s term is unsafe and too general. There is much to be learnt about the pathology and ætiology of E. Better stick to 皮象 for the present, or 癩 might do.

Addison's disease 瘰黑.

Œdema 水積網連, 腫水 | |.

Anasarca 水積體徧.

Ascites 水積腹, 積水 |, 脹水 |.

Hydrothorax 水積胸, 積水腔胸, 脹水膜肺.

Hydropericardium 水積衣包心.

Emphysema 脹氣.

Interlobular Emphysema 脹氣中葉小肺.

Vesicular emphysema 脹氣泡肺.

Subcutaneous „ 脹氣下皮.

Pneumothorax 脹氣胸.

Hydrocephalus 水積宮腦大.

Dropsy of brain 水積腦.

Empyema 膿積膜肺.

Flatulence 脹氣腹, 脹氣腸胃. K. uses 脹氣 both for this and emphysema.

Tympanitis 臌氣, 臌氣腹.

Lobar pneumonia 炎葉肺.

Lobular or catarrhal 炎葉小肺, 炎涕肺, 炎泡及管氣肺.

P. œdema 水積肺.

„ congestion 血盈肺, 血充肺, 血脹肺.

Hepatization of lung 肝似寔肺.

Dyspnœa 促氣.

Coryza 嚏鼻, 鼷.

Laryngitis stridulus 肌抽口管聲. K. evidently thinking of non-memb. croup in the term he gives: latter = 炎管聲兒小, or infantile laryngitis 喘痰口聲.

Aphonia. Delete the second term.

Hæmothorax 瘀腔胸, 血積胸, 瘀衣腔胸.

Consumption, i.e., emaciating 瘵癆.

„ mesenteric 癆膜包腸, 瘵膜包腸 (tubercular).

Phthisis pulmonalis 症癆肺, 症瘵 I.

Tubercle 粒腐 is not good, as 腐 is elsewhere used for putrefaction. 咖吡啻 is too long. Much of the ground that used to be covered by scrofula is now included under tuberculosis, but as we are scarcely at the stage where the term scrofula can be disused I suggest as a good solution of the difficulty the use of its companion character 瘰 for tubercle, e.g., 粒瘰, 瘤瘰, or if another character is wanted take 癧

Myocarditis 炎發體心.

Heart, hypertrophy 大生體心.

„ dilatation 大房心. 脹 here might mean hypertrophy or œdema of the heart.

„ murmurs. Delete 音心. 音 here is surely misapplied. See aphonia in K.'s list.

Angina Pectoris 症痛胸心, 暈痛胸心, 痛重胸心, 疝, 症急痛胸.

Thrombus, Thrombosis. Prefer 團 to 塊.

Embolism. Change to 塞移團血.

Plethora, Hyperæmia, Congestion 血盈, 多過血, 漲過脂血, 血充.

Active or arterial congestion 漲過脂脉, 血盈脂脉.

Passive or venous congestion 血盈脗廻. 血積 had better be avoided here.

It infers more the idea of stasis of a quantity of blood. See its use in empyema, dropsy, etc. In Hyperæmia, although there may be slowing of the blood current there is no actual stoppage. 血積 is more the idea of, e.g., Hæmatocele. So Khang-hi.

Hypostasis 積血下, 積血壓, 積墜血.

Stasis 血積脗血.

Aneurismal varix. Insert 通 between 脉 and 廻.

Cirroid Aneurysm 瘤脉曲.

Hæmorrhage. Is not 血出 better than 血流?

„ idiopathic 血流起自. 病無 is taking too much for granted.

„ vicarious 血流代.

Extravasation, or hæmorrhage that does not escape externally 瘀.

Cerebral extravasation | 腦.

Hæmatocele 瘀, 血積.

Echymosis 瘀下皮.

Purpura 斑瘀.

„ rheumatica (Peliosis). According to Quain's Dictionary it is an erythema, which see.

„ urticans. Delete.

Apoplexy 風中 is colloquial, but may pass for the present as a symptomatic name. 爆脉 is one form, the other is embolic, etc.

Serous apoplexy. Delete (Quain).

Pulmonary apoplexy 瘀肺.

Anorexia 食厭.

Stomatitis, ulcerative 瘍口, 瘍生炎口.

„ parasitica or thrush. Add 瘍口生寄.

„ gangrenous or cancrum oris 症死頰口.

Salivation 多過涎.

Ranula 瘤袋下舌.

Stricture of Œsophagus. Better take one character for stricture and stick to it 窄.

Vomiting 吐嘔.

Nausea 嘔欲 or the second phrase. Isn't 胃反 too strong?

Retching 嘔乾

Dyspepsia 滯食, 瘀.

„ gastric 滯胃, 瘀胃.

Indigestion 化消不 and the dyspepsia phrases.

Pyrosis 吐 is too strong. Any other word?

Intussusception 襌自腸.

Colic 疝 alone is sufficient. 疝腸 where required to distinguish from, e.g.,

Hepatic colic 疝淋膽.

Diarrhœa, catarrhal. For catarrh everywhere use 瀉 and reserve 痰 for expectoration.

Lienteric 癰而化不, 癰隨 | |. Use the 疝 characters

Tenesmus 疝 = .疝 Take 急肛 or 痛 | |.

Hernia, strangulated 疝勒.

„ cerebri 脫腦.

Hæmorrhoids. Delete 痔育 and use | 血無.

Anal fissure 韃門肛

Prolapsus 墮 where descent. 脫 where no descent, e.g., hernia iris.

P. ani 疝.

Trichiniasis 病 or 虫絲螺 or 胆 (?)

Tricocephalus dispar 虫鞭

Ascaris. Delete 虫生寄 as ascaris is *one* genus.

„ lumbricoides 虫蟻

Hepatic degeneration 變質肝.

Amyloid or waxy degeneration 漿變 is bad pathology; the degen. being albumenoid 蠟似變肝.

Jaundice. Why not also 癢?

Cirrhosis 寔變 more accurate than 寔縮, as there is no contraction in the early stages.

Perinephritis 炎網圍腎.

Strangury 痛急便小.

Incontinence of urine and fæces, paralytic 禁失便兩.

„ „ „ „ „ non-paralytic 糞溺遺.

Suppression of urine 閉 is obstructed. Use 生不溺, 生停溺.

Urinary fistula 痛溺.

Urinary deposits 底溺=urea! Take 渣溺 or 渣沉溺 for urea. Why not use 朮?

Lithiasis 淋結, but if 淋=any calculus should say 淋溺結.

Casts 模, Renal 模腎, Blood | 血.

Brain, anæmia of 血欠腦.

Headache, congestive 痛頭血盈, 痛頭漲血.

Nervous=Hemicrania.

Pachymeningitis 炎膜筋腦.

Facial paralysis 癱偏面.

Paraplegia 癱截下. Delete 痿下.

Hemiplegia 癱偏 or 病癱.

Numbness 癱.

Writers' cramp 抽寫.

Locomotor ataxia. The second term is better or anatomical, *e.g.*, 症寔變柱
後(脊) or choose a special character.

Paresis 癱.

Infantile paralysis 癱嬰.

„ „ adults or children | 炎角前.

Disseminated sclerosis | 点寔.

Spinal paralysis | 脊.

Progressive muscular atrophy | 瘦漸肌.

Pseudo-hypertrophic paralysis | 大肌, | 大變肌.

Raynaud's disease or symmetrical gangrene 症內死對相, | | | 畔雙

Acute ascending paralysis 癱上.

Syringomyelia 症脹脛中根腦.

Depression of spirits 爽欠 includes physical discomfort without depression of
spirits=malaise. Take 神精無 or 症神.

Tremor. K.'s term too strong 戰微.

„ „ tendinum 戰肢四.

Idiocy, congenital 呆胎.

Idiot 人 | |.

Dementia. Don't use 心 in this connection. 寔 will do.

Hysteria 癡. A special character seems to be needed here.

Hypochondriasis 癆 or 症之病恐自

Melancholia 滯 or 痕 or 憂鬱 or 氣 |.

Nostalgia 癢.

Delirium tremens 狂酒.

Epilepsy 症癇.

Convulsions 癇癇, 搐抽.

Chorea 瘳 or 蹇.

Catalepsy is a variety of trance 病硬抽睡昏.

Tetanus is undoubtedly 症, also suggest 瘳 and 症毒肌抽.

Rabies 病癲獸=animal madness. Better take 病毒癲獸.

„ „ canina 病毒癲狗.

Hydrophobia do.

Nervousness 瘳.

Shock. Insert 卒 to convey idea of suddenness.

Shock=neuroparalysis 衰卒氣腦, 傷 | | |.

Collapse 衰沉 | |, 失脫 | |.

Clonic spasm. Add 搐抽代間.

Opisthotonus 張反(背)(身), 張反脊, 彎後肌抽.

Sea sickness 船暈 is the better phrase.

General paralysis of the insane 癱癲.

Glossio labial pharyngeal paralysis 癱喉舌唇.

Delirium. Add 亂昏 for the milder forms, *i.e.*, low muttering.

Typhus. If 瘟 be used here its use in 疫 | may need to be curtailed.

Relapsing fever. Famine fever should only be used as a secondary term. 復 will do well.

Intermittent fever 瘧=ague symptoms and includes intermittent and remittent. If it be used for intermittent then | 退=the receding or abating intermittent, surely a confusion in terms. 退 includes the idea of intermitting, *i.e.*, complete abatement, see apyrexia. For intermittent, take 店 or 瘧退 or 瘧復. Tertian 瘧日二.

Remittent 瘧熱常 shows there is no complete recession of fever, at the same time included the ague idea.

Exanthema 症熱瘡 or K.'s term.

Measles 癩 is wanted for numbness, local anæsthesia. It is used also in 瘋癩.

Take 症熱疹.

Scarlet fever 症熱痧.

Rubella 癩輕 won't do, as it is *not* measles. Take 症熱疹小 or 症熱痧.

Plague. Term for typhus is given. If 瘟 is taken for typhus couldn't 疫 be used for Bubonic Plague? 疫炎核吸, 症熱 | | |, 症熱疫.

Varioloid 症熱痘小. Delete 發復.

Vaccinia 症熱痘種.

Yellow fever 症熱黃.

Cerebro spinal fever 症熱炎膜根腦 or 症熱瘧.

Malaria. Perhaps 瘧(ague) is a little apt to lead to confusion in use. 瘧 is convenient. Malarial miasm 氣瘧.

Cholera 症霍. Don't need 亂.

Pertussis. Add 行時.

Mumps 症熱炎核腮, | | | 核涎. 腮疔 is Cantonese. Kh. uses it for scrofulous sores on the neck.

Apyrexia. Both terms are needed.

Remission 熱退. See note on remittent fever. 退稍 would be more correct.

Glanders. K. gives infectious horse disease, a wide term. Williams gives 瘰.

Milk fever. Why 奶 for milk here and not elsewhere?

Zymotic disease is now restricted to the specific fevers 症熱瘧, 症熱行時, | | 染傳.

Infectious disease 病瘴.

Dengue 症熱痛節.

Adynamic or typhoid condition 倒衰力生 盡 | |.

Rheumatism 濕風 is colloquial. 痺 is better, and undoubtedly means rheumatism.

„ metastatic 痺節歷.

Rheumatic arthritis. This is not rheumatism, although considered by many as an allied affection. 症癰 will do very well, and as a secondary term for those who wish to retain “Rheumatic” 痺節曲. K's term=articular rheumatism, and is misleading.

Gonorrheal rheumatism. This, too, should not be called rheumatism. 炎節濁白.

Pleurodynia. A shorter term is 痺脇.

Lumbago 症痺腰.

Rheumatic pains 痛痠

Gout 瘡 or 癩. The terms in use are neither accurate nor convenient.

Gout stones 石瘡, 石溺銹.

Scorbutus 癩 or 瘰.

Beri-beri 癩.

Chlorosis. If 癩 be not taken for scorbutus it will do for chlorosis, but K.'s term will do.

Syphilis 症柳花 means venereal disease, and includes soft chancre and gonorrhœa. Take 瘰.

Chancre 瘡 is children's abdominal disease. 疔 Khang-hi doesn't give any venereal meaning. Take 瘡.

Chancroid. Prefix 似.

Condyloma 瘡癰 or 疣 | as the case may be.

Rachitis. Prefix 嬰 or take 癰. As K. gives it the similarity to Mollities Ossium is great.

Dyscrasia 血癰.

Melanæmia 血点黑.

Bronchocele 大核牌.

Sterility 子生不.

Impotence (male) 痿陽.

Parturition, obstructed 產癰.

„ difficult 產難.

„ tedious 產緩.

Superfecundation and superfoetation 孕複.

Criminal abortion 胎犯.

Placenta prævia 前貼胞.

Anteflexion 屈前.

Anteversion 前跌.

Menorrhagia 多過經.

Menses, cessation 止經.

„ suppression 生不經. 經停.

Menopause 經絕.

Menstruation, vicarious 血出經代, 經逆.

Interstitial gestation 孕頭胎蛋.

Vaginismus 窄抽道陰. 閉 is too strong.

Caries 骨爛. If 腐 is used for putrefaction better not for caries. 癰 or 蝕 may do.

Sequestrum 骨死, 片 | |.

Necrosis is not the same as caries. Take 死骨.

„ cloaca 漏骨.

Node is not always syphilitic 阜生骨.

Spinal curvature 曲脊.

Subluxation 傷扭節骨.

Genuvalgum 向相膝.

Narcosis 木癡 is not good. 睡昏藥吸, | | | 用, 迷 | | 服.

Anesthesia 失脫覺知.

Local anesthesia | | | | 處一, also 癱, or if it must be retained for measles take 痘. 癱 is the proper character.

Obesity 胖 had better be deleted. 養肥 will do.

Scalds 傷湯.

Sporadic disease. Instead of "rare" disease read 症希.

Suspended animation. Phrase too weak. Take 停吸呼, 停暫 | |.

Symptom, essential. 應 is better than 要.

„ accidental 狀偶.

Vegetations 生植 won't do if the phrase refers to vegs. on cardiac valves. 肉贅 is better.

疝 should be confined to hernial protrusions, i.e., of abdominal viscera.

Hydrocele 水積囊腎, | | 衣卵, | | 筋卵.

Congenital Hydrocele 疝水胎.

Scrotal hæmatocele 瘀囊腎.

Pelvic „ 瘀盆, 血積盆. Don't use 疝 for extravasations, even if encysted.

Miasm 氣毒=poisonous gas, and therefore objectionable. The term is now pretty much limited to malaria 氣瘴.

Marasmus 瘦漸. Why not 癆?

Acephalocyst. For 泡 read 疱.

Apnoea and Asphyxia 停吸呼.

Contusion, bruise 瘡, 傷 |.

Bubo. If inguinal 炎核腠.

Bulimia 飢太.

Inebriety 醉酒.

Lymphadenoma. Affix to 脹核吸 the following: 症厲, or | 惡, or | 險, or 大 | |.

Mucopurulent. Delete 痰. Take 涕膿.

Amaurosis, amblyopia, e.g., tobacco 眚 or 眊 or 眊.

Ametropia. Why not 曲 instead of 折?

Ankyloblepharon. Use 閉連胞眼 or 閉生 | |.

Blepharitis. K.'s term=tarsitis. 炎睫 is better.

Conj. catarrhal. For 痰 read 涕. Confine the first to sputum.

„ „ Phlyctenular 炎泡衣睛.

Corneal opacity, leucoma=cicatrix 癥生衣明, or take 膜.

„ ulceration 瘍生衣明, 爛潰 | |.

Entropion and ectropion 內捲胞眼, 外捲 | |, 翻外內 | |.

Glaucoma. Take 晦 or 眊. 眼光青 is the best of the old terms.

Granular lids 砂 should *not* be used, see calculus. 齧, or 瘡 will do well, and use 芽肉 for granulations on a wound 齧生內胞眼, 眼齧, | 瘡.

Cataract 質變珠睛 is a wide term, including all changes in the lens. Why not use the native terms? 障 is very appropriate, and although like most Chinese terms, is used loosely and unscientifically, we can confine it to this disease.

Hordeolum 癰睫.

Hypopyon 膿墜房前.

Presbyopia 眊 or 眼視老.

Phlyctenular Keratitis 炎泡衣明.

Hemeralopia 盲晝. } These words are used in exactly the opposite sense by
Nyctalopia 盲夜. } various authors. I have followed the standard nomenclature, that of the Royal College of Physicians.

Muscæ volitantes. Can't use 花 here if it is used for syphilis.

Ophthalmia 炎眼.

Pannus 瞖血生衣明.

Pterygium 翳眼.

Panophthalmia. For 重 read 膿.

Iritis prolapse. Use 脫 and not 墜.

Stillicidium lachrymarium 漏 and not 流. 眵 as a single character.

Strabismus 斜 not 邪, which has a moral meaning.

Trichiasis 眼擦毛 睫.

Ptosis 墜胞 上眼.

Astigmatism 眼光散.

Hemianopia 眼視偏.

Asthenopia 眼視弱.

Exophthalmos 眈.

Anything in the eye 眵.

Color blindness 眵.

Nystagmus 眵 or 瞤.

Arcus senilis 瞼 or 眼環.

PHILIP B. COUSLAND.

August, 1896.



WHAT PILLS SHALL WE USE?

By ROBERT COLTMAN, JR., M.D.,

Professor of Medicine, Tung Wên Kwan, Peking, China.

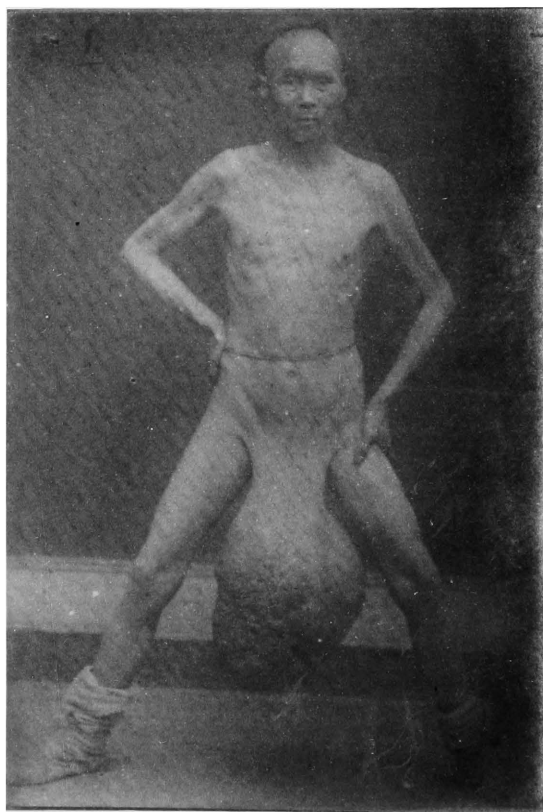
For a number of years I used in practice sugar-coated, gelatine-coated, pearl-coated or compressed pills indiscriminately, as they happened to be easily purchased.

To be sure each manufacturing druggist claimed his own production to be the most excellent, as to solubility, keeping qualities, etc., etc., and I, without testing, concluded they must all be good, with perhaps only a little difference in the time required to dissolve in the stomach. During the last three years I have been observing the effects, often the non-effect, and sometimes the partial effect, of remedies administered in pill form and have come to the following conclusions:—

Pills should always be freshly made of newly-prepared chemicals, or of recently assayed extracts, in order to get a certain and uniform effect.

Coatings of any kind interfere with the rapidity of absorption and often prevent it altogether. The so-called soluble (gelatinous) coating of Schiefflin, of New York, is the least objectionable. Sugar coatings, if recently done, are generally dissolved. Sugar coatings, if aged, are very uncertain to dissolve and often pass unchanged, especially in children.

Compressed pills, if of vegetable extracts, or powders, are usually quite certainly and easily dissolved.



Compressed pills of minerals, especially Bismuth Sub Nit, some forms of Iron, also Calomel alone, are little better than bullets, and usually pass through the intestinal tract unchanged. If mixed with a soluble salt the pill is more easily disintegrated and less open to objection, but the safer rule would be to use no compressed pills of minerals. Salol in compressed pills is very uncertain and frequently passes unchanged.

Pills are such a convenient mode of administration of remedies that we cannot afford to dispense with them, but where life is in danger we should make sure that we are not losing time with uncertain or non-effective preparations.

Fluid extracts of assayed strength are the most scientific method of administering vegetable remedies, while minerals should be given in solution or finely divided powder. The situation might be best remembered by a few "Don't's."

1. Don't use old pills.
2. " " unknown coated pills.
3. " " compressed mineral pills.

By observing these three cautions the average practitioner will avoid the results that careless administration of sometimes highly praised products of various pharmacists often brings.

ELEPHANTIASIS OF THE EXTERNAL GENITALS.

As appears in the photographs the tumour is irregularly pyriform in shape, bulging to the left, and reaches to below the level of the patient's calves. The upper fourth of the tumour is covered with apparently normal skin, soft and pliable to the touch, though with a few coarse hairs scattered over the surface. The skin over the lower three-fourths in front and at the sides is coarse, nodulated, of firm brawny consistence, with a few coarse hairs and enlarged sebaceous and sweat glands showing on the surface, and is more deeply pigmented than the skin elsewhere. Looked at from behind (photo. 3) the apex is more or less marked off from the rest of the tumour, and is traversed by a slit about three inches long running obliquely from left to right at an angle of about 30° to the horizontal. From this slit, when the patient urinates, urine issues in two or three jets. On the posterior aspect from the base of the tumour to the apex is a broad median band, soft and pliable, with the raphe running along its centre. The lower half of this band seems to include the bulk of the scrotum unaltered. The raphe terminates at the slit.

Measurements.—A straight line from the middle point of the base in front, over the apex to the middle point of the base behind measures

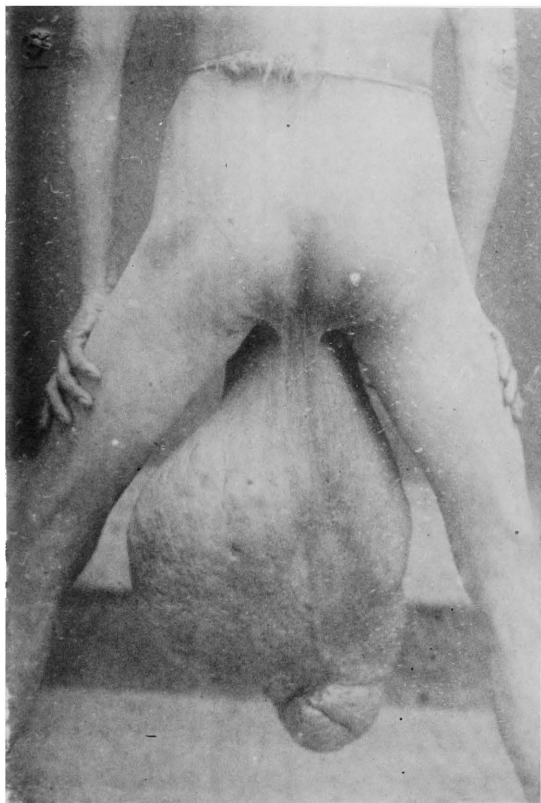
forty-five inches (being twenty-three inches from front to apex, and twenty-two inches from back to apex). Similarly from the angle of reflection with the left thigh over the apex to the angle of reflection with the right thigh, the greatest measurement is forty-seven inches (being twenty-five inches from left to apex and twenty-two inches from right to apex). The circumference at the base measures seventeen inches. The greatest circumference (about half way down the tumour) measures thirty-six inches.

Patient refused to have the tumour removed, and no attempt was made to weigh it "in situ"; but judging from the measurements, the density of the tumour, and from the patient's position while the tumour hangs free (photo. 1) the weight he supports must be considerable.

Private and Family History.—Patient is fifty years of age, and the tumour, he says, is of twenty years' growth. Elephantiasis arabum is by no means common in this part of China; yet the patient says that he, and his father before him, spent the whole of their lives in their native village, about fifty miles from Hankow. Patient had one brother, and he had a similar tumour. This brother died some time ago; and his tumour being then of not more than ten years' growth had not reached to half the size of patient's.

History of Tumour, its Mode of Origin and Growth.—What the patient remembers to have first noticed was pain on urinating, a pain that persisted for some time after the act of urination had ended. Next the 'left testicle,' he says, became painful and began to swell. This swelling from time to time steadily increased, and about one year later the right testicle also became painful and began to swell. After three years the penis seems to have become involved and incorporated in the tumour. The opening from which the urine issued was then on the anterior surface of the tumour. Year by year as the tumour grew, this opening was pushed lower down until at last it disappeared round the apex and came to occupy its present position on the posterior aspect from one to two inches above the apex. Every winter, he says, he has pain on passing urine. He presented himself here during the warm weather, and was then free from any such discomfort. A sample of his urine then examined was free from albumen, of a pale straw colour, acid reaction and sp. gr. 1019. Neither the blood nor serum from the tumour were examined microscopically.

Remarks.—The chief interest in this case, and the reason for bringing it forward at all, is that the foreskin and the skin of the dorsum of the penis seem to have become involved early in the history of the tumour, and to have formed the great bulk of the tumour. The greater part of the scrotum, perhaps the whole of it—occupying the position above referred to—is free from disease. The pain and swelling of testicle mentioned as occurring in the early





history of the tumour, may have been orchitis of filarial origin. Judging from the absence of literature on the special point, Elephantiasis of the Penis seems to be a rare condition. The only case I can find any definite reference to is one figured in "Hutchinson's Clinical Illustrations of Surgery" (Plate lxxii.) where the patient was a negro, and the tumour—"a condition of disease of the prepuce and skin of the penis only"—was much smaller than the present one, reaching as it did only "almost to the patient's knees." Taking for granted that Elephantiasis Arabum is now generally allowed to be a filarial disease, due to blocking of lymphatic channels in some part of their course and to repeated attacks of lymphangitis, may it not be that, while the lower extremities and the scrotum are so frequently involved, the integument of the penis usually escapes the disease from its lymphatic system being more liable to variations in internal pressure and thus rendered less liable to be blocked at any part by filarine? Elephantiasis arabum, it is said, rarely occurs before the age of puberty.

JOHN D. THOMSON, A.M., M.B., C.M.

"NURSING."

The necessity for being "something of everything" is constantly brought prominently before us out here in China and one of the most important points, upon which every one of us needs to know "something," is the subject of Nursing.

There can hardly be a more trying position than that of the man or woman planted for the first time in a sick-room with no idea how to set about things and with no one to give the needed help and teaching; often the position is rendered doubly painful by the knowledge that a little skill might have saved a great deal of suffering to some one very dear. It is in the hope that the hints contained in these papers may be found useful in such times of need that they are being written.

The Sick-room

should be chosen according to the time of year, warm and bright in winter, cool and shady in summer. It should be, if possible, upstairs and its window should not look out over any badly smelling refuse heap, neither should it be closed in by trees. In winter a south aspect is preferable. The room should be clean and bright looking. The *appearance* of a sick-chamber will make a great deal of difference to a patient's spirits during a long illness and, especially, during a long convalescence.

Much furniture is a mistake, as it prevents free circulation of air and harbours dust and, as a rule, carpets, bed-curtains and valences should be dispensed with. Ventilation is most important; we will hope the sick-room is

a well-ventilated apartment, but in any case it is well, once or twice in the day at least, to cover the patient over and open both doors and windows for a few minutes, thus allowing a current of air to pass through the room. It is a great convenience to have another room opening out of the sick-room, where hot water can be kept close at hand and poultices, &c., prepared and, in some cases especially, it is a great advantage to be able to move a patient from room to room for change of atmosphere.

The bed should be placed, where possible, between the door and window. To avoid draught a screen may be placed between the door and the bed. It is much easier to do what is necessary if the patient is on a *single* bed. A mattress is much preferable to a feather bed, both as regards the patient's and the nurse's comfort. Sometimes, in the case of a long illness, it is well to have two beds, so that the patient may find relief in change. The bed should be made with a draw-sheet, about $2\frac{1}{2}$ feet wide and long enough to tuck in well at the sides, placed about the middle of the bed. Under this should be spread a Mackintosh sheet to guard the mattress from possible accidents. At least one extra pillow should be kept ready, so that the tired, hot head may have the comfort of its cool freshness. Where an air or water pillow is not to be obtained, a large india-rubber hot water bottle, filled with cold water, will often be welcomed as a pillow. In making the bed, if the blankets are very long, turn them up at the foot of the bed in preference to having a great deal to double over at the top. Turn the clothes down *once* at the top, do not double them in again, or an uncomfortable bundle will result over the patient's shoulders.

Never mind the *look* of the bed, the patient's comfort is the first consideration.

Now as to *the nurse*. A good nurse should have nothing noisy or irritating about her person, no squeaking shoes or rattling châtelaine for instance. Her movements about the room should be quiet but not snake-like, quick but not bustling, and *always* with some purpose. No *whispering* should be allowed in the sick-room. Low-toned talking is rarely irritating, but anyone who has ever been ill will know that whispering is almost exasperating. Personal cleanliness is, of course, essential to good nursing, and the nurse's safety as well as that of her patient often depends on care in this particular.

All things being ready, the next thing is to put the patient to bed. In doing this see that the pillows are arranged so as to give him comfortable support; no rule *can* be laid down for arranging pillows, for every patient has a different way in which he likes them; the only thing to do is to use common sense and see that he is comfortable. Some patients require a bed-rest to enable them to breathe easily; this is especially the case with some forms of heart and lung disease. In the absence of a bed-rest, an ordinary

chair may be substituted. Turn the chair on its side, put the legs through the top of the bed, so as to touch the wall, and thus keep steady when the patient's weight is against it. Let the patient's back rest against the seat of the chair, the chair back coming to one side of him. If hot water bottles are needed be careful to have them well covered with flannel, *especially if the patient is paralysed or unconscious*; many a patient has been severely burnt without being conscious of any pain.

Bear in mind the fact that, by doing all in your power to give complete *rest* to an inflamed or injured part, you are giving nature the best chance to recover herself and this is the great aim of good nursing. Therefore, if a limb is injured support it in as easy a position as possible by pillows, or otherwise, arranged so as to allow as little movement as possible when other parts of the body are moved; the same rule also applies where the whole body is involved. Do all in your power to give *rest*.

Before washing a patient have everything ready to hand. Have the towel dry and warm and dry one part of the body before washing another. It is quite unnecessary to expose much of the patient at a time. Wash all the flexures very carefully and pay special attention to thorough drying. The back should be carefully sponged and dried every day, the patient being turned over on to one side during the process and any sign of redness noticed. Nothing is more important in the prevention of bed-sores than scrupulous cleanliness. A little methylated spirit rubbed into the skin, or brandy and white of egg painted over it, will by hardening it help to prevent bed-sores; if any red places are seen over bony prominences they should be painted over with collodion and the pressure relieved by cotton wool pads. Where the skin is broken a little zinc or boracic acid ointment should be kept applied.

In turning a patient, who is too ill to be able to help himself, on to his side, do *not*, as people so often do, seize his arms and drag him over, but, standing on one side of the bed, put both your hands under his back, one being at the level of his shoulder-blades, the other under the "small" of his back, and gently turn him over like a log. In this way he has a comfortable sense of support and if he has pain in the process it will be as little aggravated as possible. If a patient can lie in different positions it is a great help towards keeping him free from bed-sores, as well as affording him great relief. If he cannot move himself turn him gently, in the way mentioned above, and keep him supported in that position by means of a pillow doubled up and pushed up under the mattress against his back.

In hot weather, or if a patient perspires much, he should be rubbed down frequently with a dry, warm bath towel and the back and flexures dusted with powder. A good dusting powder consists of equal parts of zinc oxide and starch.

To change the Sheets.

Take away the pillow, turn the patient over on to one side and roll the soiled sheet as close as possible to the patient's back; then lay the clean sheet previously rolled for half its width, with the roll close up against that of the soiled one and turn the patient back slightly on to his other side; both rolls can then be reached from one side, and the soiled sheet can be removed and the clean one smoothed out. Very little trouble or discomfort need be caused to the patient if this plan be carefully carried out; there need be no lifting or shaking. While the undersheet is being changed the patient should be lightly covered with one sheet or blanket.

With regard to *wearing apparel*. In cases where it is essential that a patient should be kept very still and yet, owing to profuse perspiration or other causes, his things have to be frequently changed, it is advisable to have garments made to fasten *behind* and just to put the arms through the sleeves and leave them unfastened.

In changing an ordinary night-dress or night-shirt do not try to pull out both arms at once and do not begin to try to get out *one* arm until you have drawn as much of the garment over to one side as the width will allow. If more than one sleeved garment has to be put on slip the sleeves of the one into those of the other and put on both at the same time.

Washing and changing sheets and clothes is, at best, a very exhausting process to a weak patient and should be done so as to cause him as little exertion as possible.

Use of the Bed-pan.

In giving a patient a bed-pan, if he is able to raise himself a little, put one hand under the sacrum, so as to give a feeling of support, and with the other put the utensil in place. Where he is quite helpless you will need some one else to help to lift him. Otherwise, by trying to do two things at once, you may actually make a bed-sore by pushing the utensil against the tender skin.

In some forms of disease, *e.g.*, in paralysis, where there is a greater tendency to the formation of bed-sores, it is better always to *oil the bed-pan*, so as to lessen friction. The bed-pan should be warmed before use with warm water.

Enemas.

If you have to give an enema, the kind and quantity will always be indicated by the doctor. Large enemas, as of hot water, are usually given by means of a Higginson's india-rubber enema-syringe; smaller quantities, as of glycerine, by a small brass, vulcanite or glass syringe. In using a Higginson's syringe first make sure that there is no air left in the bulb by squeezing some water through while the nozzle is under water. If there is

bubbling there is still air. Then, when the requisite quantity has been given, after the last squeeze, do not allow the bulb to expand again until you have withdrawn the nozzle, otherwise some of the water will be drawn back again and you will be fortunate if the whole enema does not follow, before it has had time to take effect.*

To pass a Catheter.

First wash the entrance to the urethra with a piece of wool soaked in some disinfectant, such as Izal (1 in 200); carbolic acid (1 in 80); “Condy’s Fluid,” etc. If this is not done some impurity may be carried up into the bladder and set up inflammation there.

A number 8 male catheter is a good size to use, and it should be made of red rubber. Before use it should be carefully washed and dipped in a disinfectant solution. The part beyond the eye should be carefully attended to, as it often forms a trap for dirt.†

Have the catheter well oiled, and do not use any force in passing it. When a catheter has to be constantly passed on a patient it should be kept in a solution of Hg. Perchlor 1 in 200.

To pass a Catheter on a Female.

On separating the hair-covered *labia majora* the small folds of mucous membrane, known as the *labia minora*, will be seen; separate these and two orifices will be brought into view: the posterior and larger is the entrance to the vagina; the smaller, anterior opening, is the entrance to the urethra, the so-called *meatus urinarius*.

With the patient lying on her back, stand by her right side, at about the level of her hips, and with your left-hand separate the labia. Lean over and see the entrance to the urethra, cleanse it carefully and pass the previously oiled catheter in with your right hand in a direction at first backwards and slightly downwards, afterwards backwards and a little upwards.

When the flow has ceased withdraw the catheter a little, after which, often, a little more urine will come.

It is better for anyone who has not previously been trained to pass a catheter to do it in this way, though in any ordinary case it can be easily done under the bed-clothes without exposing the patient. This can scarcely be taught in a paper.

[In ordinary cases the passage of a catheter on the male is perfectly easy. Use a *soft* rubber catheter. Expose the urethral orifice by reflecting the prepuce, hold the organ steady with the left hand and push the soft catheter in inch by inch until urine flows. There is nothing to be afraid of, you can do no harm—Ed.]

* For other ways of giving an enema see *Med. Miss. Jour.*, vol. x., p., 51 on “Methods of emptying an Obstructed Bowel.”

† Gum elastic catheters, solid beyond the eye, so as not to harbour dirt, and smooth inside, can now be obtained from Messrs. Maw, Son and Thomson and other makers.—Ed.

In a case of long illness it is important to remember not to let the weight of the bed-clothes rest on the patient's feet, sometimes serious consequences follow prolonged pressure of heavy bed clothes on the feet. A little four-legged stool, or a box with the sides taken out, will answer all the purposes of a "cradle" very well.

Patient's Food.

A patient's diet will, of course, vary according to the complaint from which he is suffering, but a few general remarks may be helpful. Patients on "milk diet" ought to take from 3 to 4 pints in the day.

Three pints of milk and one of beef tea is a very usual diet to be ordered. This may be varied or supplemented by gruel, barley-water, rice water, meat extracts, jellies, etc. *All the Milk and Water should be boiled before use.* Invalid appetites are very difficult to manage and often it is anything but easy to coax down the necessary amount of nourishment. It is, therefore, very important that things should be served up as nicely as possible. It is always a mistake, for instance, to bring gruel to a patient with the spoon that has been used to make it, or to bring a saucer with some of the contents of the cup spilled into it, or to let a patient see his food tasted by some one else before it is given to him. What he cannot eat should be taken right away out of the room and never brought back on the same plate, or in the same cup. Have two feeding cups in use at the same time, keeping one for milk and milky foods and the other for beef tea, broth, etc. Do not let food stand in a feeding-cup, or there will be great difficulty in cleaning the spout properly; let it always be well washed with hot water as soon as it is done with. When the patient has to be fed with a tea spoon, in the absence of a proper feeding spoon, do not *fill* the tea spoon, or some of the contents will be almost sure to run down his neck or get spilt. Food should never be *kept* in the same room as the patient.

Where *rectal feeding* becomes necessary not more than oz. ii. at a time should be given. While it is being used the rectum should be washed out once a day with warm water. Pass the tube upwards and *backwards*. A nutrient enema should be given very slowly, or it will be returned.

Where the rectum becomes very irritable a few drops of laudanum may be added; in some cases again a few grains of quinine may be ordered, to act as an intestinal disinfectant, while in others it may be advisable to peptonise the milk, etc., before injecting.

Other methods of feeding in common use are: by the use of the *nasal tube*, or by the stomach-tube passed through the mouth. The first method can be very easily carried out. A small, soft, red india-rubber tube is used, about

18 inches long. It is passed along the floor of one nostril, having been previously oiled, and, as a rule, readily passes along the back of the pharynx down into the œsophagus.

The index finger of one hand may be put into the patient's mouth to guide the tube along the back of the pharynx should there be any difficulty. The required amount of nourishment should then be *measured* and poured down the tube, slowly, with the aid of a funnel.

Nasal feeding is often necessary in very little children suffering from pneumonia, probably because, owing to the great difficulty in breathing, they are afraid to swallow food and persistently refuse it.

There are certain forms of treatment which a nurse may at any time be called upon to carry out, having for their object the reduction of temperature by helping the skin to act freely. These are sponging, packing and the cold bath.

1. *Sponging.*

If there are two beds in the sick-room the sponging should be done on one and the patient afterwards lifted on to the other, always supposing that there are plenty of helpers available to lift him without disturbing him greatly, otherwise he should not be moved.

First spread a large Mackintosh sheet over the bed (it can be slipped under the patient in the same way as an ordinary undersheet). Then, having the patient lightly covered with one blanket, take a good-sized sponge, wrung out of tepid water, and, beginning at his face and hands to gradually accustom him to the process, sponge all over his body, doing each part for a few minutes. Then gradually lower the temperature of the water by means of ice added, or fresh well-water, until it is cold or even ice cold, continuing the sponging for 25-30 minutes at a time. Afterwards take the temperature and see how much it has fallen. Cover the patient well up. Watch the temperature and repeat the sponging, if necessary, several times during the day.

2. *Packing*

should always be done on another bed. It is a much more exhausting process than sponging, but more effectual.

Spread the Mackintosh and underneath it have a couple of blankets, width ways across the bed. Wring out a sheet in ice-cold water and wrap it all round the patient. Then roll the Mackintosh and blankets well round him and put several more blankets over him. Unless the patient begins to feel cold, or show signs of exhaustion the pack may be left on for an hour or more. If the patient feels chilly, or the sheet becomes dry, it is an indication that it had better be taken off. The patient should be rubbed down with a dry, warm bath towel and warmly covered up in bed.

3. The Cold Bath.

This is the best and most effectual method of all, where it can be properly carried out and the patient is not too weak to stand it. In the case of little children it is especially valuable, as they can be so easily lifted in and out.

The bath should at first be about the temperature of the body (*i.e.*, about 98-99 degrees), and should contain sufficient water to be able to immerse the patient up to the neck. The temperature of the water should be gradually lowered by addition of ice or well-water.

If the patient shows signs of great exhaustion, strong coffee, carbonate of ammonium or sal volatile may be necessary. If possible, *i. e.*, if he is not too exhausted, he should be kept in till the temperature is down to normal, or nearly so; the time varying from three to twenty minutes or more.

Afterwards he should be dried with a warm towel and put back to bed. One of the above mentioned stimulants may be then needed. The bath may be repeated; many people never allowing the temperature to go above 103°. Assistants are necessary to carry out the treatment, which should only be used under a doctor's direction.

Poultice Making.

Put the required amount of boiling water into a *hot* basin *first*, then add linseed meal, stirring quickly with a large knife, previously warmed. When of the right consistency and *well mixed* spread on tow, lint or whatever is to be used, turn over its edges, pour a little oil over it, or *wet* the surface, and apply always with the linseed *next the skin*.

A well-made poultice ought not to stick about the skin, or crumble into the bed at all.

Fomentations.

Take the lint or old linen to be used out of the boiling water or lotion, place on a towel in the middle and wring dry, or, better, with the aid of sticks, using a jack towel and putting a piece of wood through the loop at each end, turning these "handles" in opposite directions. Then open the towel, shake out and apply quickly.—[For the best way of making a Turpentine Stupe see "Notes and Queries" in the present No.—Ed.]

Typhoid and Cholera Stools.

For disposal of these see Dr. Hodge's paper on Cholera, "Medical Notes for Non-Medical Readers." Remember that garments or sheets having the *smallest stain* will speedily become fruitful sources of infection.

E. G.

The China Medical Missionary Journal.

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No. 4.

Editorial.

It is with mingled feelings of relief and regret that we retire from the editorship of the Journal. The post is one involving much hard work and much responsibility. It has, of course, its compensations, not the least of which are the kindly expressions of approval which one from time to time receives. We would fain have been willing to serve our brethren for another term, but the claims of one's own work, and the prospect of a return to England at no distant date, have left us no option. We can, however, congratulate the Association on having secured the services of so able a man as Dr. Stuart, of Nanking. Dr. Stuart is well known as a man well abreast of medical literature, keenly interested in the great question of medical education in this country and an earnest evangelist; in fact in close touch with every department of the medical branch of missionary service. We bespeak for him the cordial support of the members of the Association, without which the best editor in the world cannot conduct a magazine.

We have, once more, to thank those members who have helped us during the year and especially those who have sent us articles without being asked to; to a busy editor such contributions, in this land of vast distances, are doubly welcome. Will our members remember this during the coming year? The lack of such unsolicited help makes all the difference to one's work being a pleasure or a burden.

Certain departments are still left too much to the editor, especially the evangelistic column. It is too much to expect a busy man to hunt through the pages of innumerable magazines, belonging to many different Societies, in order to bring together in a collective form all the interesting pieces of news from every part of the field. But for the help of one or two personal friends, *not medical missionaries*, it would not have been possible to keep this department going. If members, when writing home to their own Societies, will remember to send to the Editor a copy

of their communication it will save much trouble and add interest to these pages of the magazine. "Notes and Queries" have been somewhat disappointing. This column affords an opportunity to a man, who is too busy to write a long article, to send a short note on some case; we trust it will be more used in the future.

It will not be unfitting if, on retiring from the editorial chair, we make some reference to some of the principles which we have kept before us during our tenure of office. In compiling "Medical and Surgical Progress" (a column which, though it is only paste and scissors work, involves an enormous amount of reading) we have aimed, not so much at a medical "Tit Bits" as, to give abstracts of all the most important articles which have appeared in the various medical journals, knowing that no one man, probably, sees half the journals that come to the Editor. We have not been able to bring this department of the paper up to our ideal, which is, that separate columns (*e. g.*, Surgery, Medicine, Pediatrics, &c.) should be taken by different sub-editors, who should write a succinct and interesting account of every new departure during the past quarter. This means more help than we have had at our disposal, but it may yet be realised in the future.

In our editorials we have, at the risk of a charge of egotism, written somewhat dogmatically. We have done so purposely and have largely dealt with subjects of general interest and importance to our Society. We are of opinion that in our journal, and for our Society, working under conditions which make mutual consultation difficult or impossible, this course is, on the whole, for the general good. The initiatory action in almost everything is coming to rest more and more upon the Editor, who forms the one connecting link and bond between the scattered units of our Association. He, from the very conditions of his office, is in touch with almost every one; he knows best the inner workings of our machinery and where the wheels run least smoothly; he, too, being keenly alive to the best interests of the work, is always on the look out for some better way of carrying on our affairs. It is becoming, too, more and more apparent, that the editor is the man upon whom must rest the chief burden of the success, or otherwise, of our Society. In this fact lies at once a real benefit and a real danger. It throws a heavy responsibility both upon those who elect that officer and upon him who accepts the post. We could speak of other important duties that devolve upon the editor, which the Constitution never contemplated and never provided for; but these will be discovered by each successive occupant of the chair, and the pages of a public journal are scarcely the place to refer to them.

As a firm believer in the value of the eye as a help to the understanding, we have, wherever possible, made use of collotyped photographs to illustrate the various articles which have been contributed to our pages. As some have, in the past, made complaint of the old wood cuts, we wish to say that collotypes can be produced in Japan for about two cents each. We believe that our publishers are making arrangements to produce their own collotypes next year, so that we shall probably be able to get this work done still more reasonably. We would urge all our friends to send photographs whenever possible ; it adds so very much both to the interest and the value of an article.

We have one parting suggestion to make, a suggestion originating in a chance remark in a letter of Dr. Kerr's the other day, that the title of our Association and Journal be altered to include the medical missionaries in Japan. The two countries lie so near, the workers have so much in common, that such a step could only be fraught with good to both parties.

With these few remarks we take our adieu, wishing all our readers

A Merry 'Xmas and a Happy New Year.

Medical and Surgical Progress.

THE HYPODERMIC INJECTION OF QUININE.

In studying this question, M. Kelsch (*Arch. de Méd. Milit.; La Méd. Mod.*, February 27, 1895) recommends the following two formulæ:—

R Quininæ hydrochlor. (basic), gr. xlv.
Analgesine, gr. xxx.
Aq. dest., f. dr. iss.

Or this:—

R Quininæ hydrochlor. (neut.), gr. xlv.
Aq. dest., q s. ad. f. dr. iss.

Fifteen minims contain about eight grains of the neutral chlorohydrate of quinine.

The author gives the following general instructions:—

In employing these injections the neutral chlorohydrate of quinine, or the basic chlorohydrate associated with antipyrin should be used, and if aseptic instruments are employed, and care is taken to make the injections gradually into regions that are rich in cellular tissue, the danger of the formation of eschars or of sloughs is avoided.

No form of quinine or method of operating does away absolutely with the chance of these complications, for they are dependent upon the particular subject treated, at least to a great extent. In men who are anæmic from a prolonged sojourn in foreign climates, or reduced by rebellious fevers, these accidents are to be expected, despite all antiseptic precautions or with no matter what salt of quinine. For this reason the use of hypodermic medication should be reserved for cases of intense fever, where it is necessary to act promptly and where the danger from the hypodermic injection cannot be compared with the danger threatening the patient.

THE TREATMENT OF CHRONIC SCROFULOUS OTORRHOEA.

M. Isaia (*Revue Internationale de Médecine et de Chirurgie Pratiques*, December, 1894) gives the following formulæ for the treatment of this condition:—

R Balsam Peruvianæ.
Alcohol, of each, dr. iiss.
Cocaine hydrochlor., gr. viii. to xv. M.
Sig.—For external use.

Or this:—

R Balsam Peruvianæ, dr. i. gr. xv.
Glyc., dr. iiss.
Cocaine hydrochlor., gr. vii. to xv. M.
Sig.—For external use.

Or this:—

R Balsam Peruvianæ.
Balsam Tulu, of each, dr. ss.
Alcohol, dr. i. to dr. iiss.
Cocaine hydrochlor., gr. xv. to xxx. M.
Sig.—For external use.

These formulæ are used in the following manner: after the external auditory canal has been thoroughly cleansed with a solution of resorcin, of boracic acid, or simply a salt solution, the canal is made insensible with cocaine and a few drops of one of the above solutions are then instilled into it, or a tampon previously saturated in one of these solutions may be introduced.

In the hands of Dr. Isaia, of Naples, these solutions have generally given good results, but they should not be employed where there are any excoriations, since the balsams are liable to set up an irritation that may result in a painful inflammation.

TREATMENT OF INSOMNIA.

Brush, the well-known alienist of Maryland, contributes a paper with this title to the *Maryland Medical Journal* of February 23, 1895.

In numerous instances which he could report it has been found that the patients did much better after their admission to the asylum, both as concerned sleep and amelioration of their general nervous and mental symptoms, when the hypnotics which had been prescribed were discontinued, or very largely reduced, and tonics, proper food, and attention to the personal hygiene of the patient substituted therefor. It is too often the case that physicians who treat insanity in the earliest stages forget, or are oblivious of the fact, that the symptoms which are most prominent—namely, sleeplessness, mental excitement or depression, and possibly disorder of one or more of the senses—are in a large proportion of cases the direct result of physical and nervous exhaustion and the imperfect elimination of the products of tissue waste and metamorphosis, which, having been retained, have produced a state of auto-intoxication, of which the general symptom group presented in the patient is the evidence. To give such a patient chloroform, the bromides, or opium in any of its preparations, or any of the more modern hypnotics would, in many instances, add a new feature to the complicated problem already presented, rather than produce relief. Some of the most distressing complications of cases of insanity which he has seen have been due to prolonged use of the bromides. It may not be out of place, indeed, to call attention to the fact that experience has shown that several of the new hypnotics and analgesics have been found by various independent observers to seriously disturb the digestive and renal functions and to produce themselves symptoms of toxic delirium. Five years ago he called attention to the fact that sulphonal, in most cases, caused diarrhoeal disorders and impaired intestinal digestion. Evensen (*Deutsche Medicinische Wochenschrift*, No. 10, 1894), a Danish physician, in two cases, and Stein (*Therapeutische Monatshefte*, February, 1893) in one, found that hæmatopor-

phyruria was induced by sulphonal. In Stein's case there was albuminuria, necrosis of the tubules, and other evidences of toxic nephritis. A case has also been reported by Schaffer, assistant at the asylum at Heppenheim, in which similar symptoms were observed.

Too little is known of the etiology of the rare condition known as hæmatoporphyria, of which but a few cases have been reported, to estimate its exact significance, but it is certainly worthy of note that four, at least, of the few resulted from sulphonal-poisoning. A drug which is capable of producing such serious blood changes is certainly one which should not be rashly prescribed. Habit cases have already been reported of sulphonal and phenacetin and he has had under care a patient with the antikamnia habit. When the drug in this case was discontinued, the patient had a chill, followed by a high temperature, delirium and subsequent great prostration. The patient, on admission, was profoundly anæmic and approached very nearly to the condition of a case of pernicious anæmia. He had albuminuria and hæmaturia and evidences of profound toxæmia. From these he rallied for a time, but subsequently died after leaving the institution. Hypnal has been too little used, and tetronal and trional are of too recent origin, to have experience concerning them accumulate, but they all belong to the same group and may be properly regarded with suspicion and used with care.

Paraldehyde, if used for but a brief time continuously, as he has had occasion to note in patients admitted under its influence, produces a peculiar intoxication and its taste and odour render its use disagreeable; moreover, in patients with pulmonary disease, its well known irritating effect upon the respiratory mucous membrane contraindicates its use.

Of the purely analgesic drugs, like antipyrin, phenacetin, and acetanilide, it is sufficient for the present purpose to say

that they afford but temporary relief, that their use may develop into habit, and that serious circulatory disturbances and tissue-changes have been attributed to their use.

It is to be deplored that the public has been taught that these drugs are harmless and has come to apply them without advice and often without necessity. The faculty should issue a warning that has no uncertain sound against the indiscriminate use of these, in some cases, dangerous compounds. Brush perhaps owes his readers an apology for wandering so far from his text, but these points are among those upon which he had to ponder in considering some of the problems which have faced him in treating the varying disturbances of physiological functions which have been found in his patients and which have been some of the elements involved in many of them. Moreover, this seemed a good occasion to raise a protest against the popular use of these new hypnotics and anodynes.

The modern treatment of insanity and of nerve disorders in general may be summed up in tonics, food, rest, and attention to personal hygiene, under which may be included attention to all the physiological functions. Why not, therefore, apply the general to the special indication in these, and in place of prescribing an hypnotic simply as an hypnotic, attempt to combat the sleeplessness by such attention to the physical state of the patient as would be at once suggested were this condition not lost sight of by the more prominent symptom and apparently more distressing one of sleeplessness? Brush is well aware that often in private practice the apparent necessity of quieting the patient, and the importunities of friends, induce the use of drugs which might not be employed under other circumstances, and that in some cases, sleep and quiet are absolutely necessary and time will not permit any resource except the employment of hypnotic medicines. He has seen, however, more than one patient with a rapid, feeble pulse, a dusky,

almost cyanotic, countenance, dilated pupils, dry, brown tongue and restless delirium pass into a condition in which sufficient sleep was obtained by the careful administration of food, heart tonics and diffusible stimulants.

There are numerous cases of insomnia due to renal or heart-disease, and a long line of cases in which lithaemia plays a prominent causative role, in which the sleeplessness is best met by attention to these conditions. Not only do we remove the insomnia by so doing, but we are at the same time upon the high road, and indeed the only road, which leads to a permanent improvement of the general nervous and physical prostration of the patient.

About seven years ago Professor Lauder Brunton, in the *Practitioner*, called attention to the use of strychnine as an hypnotic. The use of the term hypnotic in connection with strychnine may sound strange to many, and strictly speaking it is not an hypnotic, except as any drug may be considered one which places the patient in a condition to sleep. He showed in this very suggestive article that strychnine, by its direct action as a general tonic and by its action upon nerve-tissues themselves, produced such a condition that sleep was not only possible, but was often, in cases under consideration, best produced by this means.

The employment of baths, massage, dry frictions and mild counter-irritations to the skin are methods so well known as to require little more than a passing notice.

The warm bath has advantages which few who have not systematically tried it appreciate. It may be made at once a stimulant to the circulation and then a sedative. Some seven years ago A. Symon Eccles, M.B. (*Practitioner*, March, 1888) showed that the administration of a bath for the purpose of inducing sleep was not as simple a matter as it seemed. The bath should be administered in a room whose temperature is 65° to 70° F. The patient is made to stand with his head over the edge of the

tub and his head and face are then rapidly doused with water at 100° F. The cooling of the body by the air and the hot sponging of the head sends the blood to the head, dilating the vessels of the entire brain. The entire body is then immersed, except, of course, the head, in a bath at 98° F., which is rapidly raised to a temperature of 105° to 110° F. In a few minutes the patient is taken from the bath, wrapped in warm blankets, and without exertion on his part, taken to his room. The blankets absorb the moisture; in his room his night-clothes are put on, a warm bottle placed at his feet, and possibly some warm liquid food administered. The sedative and refreshing result is often most marked.

The theory of this proceeding is easily comprehended. After the vessels of the brain have been filled by the cooling of the skin of the body and the hot douching to the head, the warm bath dilates the vessels of the trunk and extremities, with corresponding contraction of those of the brain, which, with the slowing of the heart induced by the bath, reduces the supply of blood to the whole brain; at the same time the vascular sewers of the brain have been flushed and blood charged with the products of tissue waste, of disordered digestion or with various toxic elements of internal or external origin, has been replaced with a fresh supply.

Some patients cannot be subjected to this method, for one reason or another. For these, massage, sponging of the body, followed by hot sponging for from three to five minutes from the vertex to the tip of the spine and subsequently brisk friction with Turkish towelling, of a portion of the body at a time until the whole body has been gone over, will be found a fairly efficient substitute.

If massage can call into the blood-stream, as seems to be the case, blood-corpuscles which have lain hidden and dormant in the capillary system, it is not too wild a conjecture to infer that the cerebral cir-

culation can be quickened and the entire vascular system of the brain flushed out in this or some analogous manner. Massage, moreover, appears to increase the local blood-supply in the manipulated parts at the expense of deeper structures and to cause lower blood-pressure conditions, both favourable to sleep.

The hot pack to the abdomen, preceded by friction of the limbs and kneading of the abdominal walls, will, in certain cases, be of great service. In all of these cases the administration of hot milk, oatmeal gruel, or the animal broths will be an efficient adjuvant.

If we take the classification of insomnia as laid down by Professor Sée, it is quite evident that not many of our cases can be placed arbitrarily in any one of the divisions which he makes. There may be, for instance, a combination in the production of insomnia of pain, cardiac disease and some condition of toxæmia. If, however, we examine the cases as he presents them, it will be found that it is in the first class, the cases of insomnia from pain, and almost in that class alone, that we require morphine or some similar preparation. Those numerous cases of insomnia which depend upon some disorders of digestion, either gastric or intestinal, are not infrequently the most difficult ones to treat. It is plain that narcotics and hypnotics are of little or no utility in these cases. He attributes in many of these cases the cerebral agitation to an excessive acidity, or what he terms "hyperchlorhydria," in which cases he prescribes drachm doses of bichlorate of sodium in a glass of hot water on retiring. Many of these cases are due to, or complicated by, intestinal indigestion or fermentation. In such cases naphthalin will be found of considerable value and an improvement in sleep and in the patient's mental state has been observed to follow its use.

Next in order, possibly, to the cases of insomnia from digestive disorders are those

arising from lithæmia or uræmia. In the lithæmic cases exercise, which favours the complete transformation of the waste products and promotes excretion and circulation, will always be found beneficial. In those cases in which active exercise on the part of the patient can not be taken, the passive exercise of massage will be found to be a fairly efficient substitute. These cases are quite analogous in many respects, in the matter of treatment, to those conditions of insomnia arising from digestive disorders and they also bear an intimate relation to the cases of toxæmia either from substances taken into the body or from autointoxication.

In some of these latter cases, and especially in cases of alcohol and opium intoxication and the insomnia resulting therefrom, the prolonged warm bath, with brisk friction following, or occasionally the wet pack, have, in the several instances in the writer's experience, proved of remarkable value. In some cases of alcoholic and in many cases of opium intoxication the condition of the heart is such that the prolonged warm bath can only be administered by exercising great caution. The heart must be supported occasionally by stimulants and it is always a good plan to give to these cases, during the bath, some easily digested liquid food, as, for example, hot milk or hot beef-tea.

A METHOD OF DIMINISHING THE INCONVENIENT EFFECTS OF THE IODIDES.

Erhlich and Kroenig showed in 1885 that the combination of sulphanilic acid with the iodides converts the harmful and nascent nitrites found in the saliva and nasal secretions into inoffensive products.

Valentin has shown latterly that we possess in this drug an excellent remedy for certain symptoms of acute catarrh. Thus, in acute coryza, the redness and swelling, with profuse discharge, are notably diminished or completely aborted after a few hours by its use. In acute laryngitis and

otitis media the drug has an action, but it is less certain, the pain alone being diminished in the latter disease. The influence upon catarrhal conditions is not a permanent one and it is necessary to repeat the dose at the end of twenty-four to forty-eight hours.

It is given as follows :—

R Acid. sulphanilic, dr. iiss.

Sod. bicarb., dr. ii.

Aq. dest., f. oz. x. M.

Sig.—A dessertspoonful in water twice a day.

Or as follows :—

R Sodii sulphanilat., dr. iiss.

Aq. dest., f. oz. viiss. M.

Sig.—3 teaspoonfuls twice daily.

—*La Médecine Mod.*, March 23, 1895.

A METHOD OF RESTORING PERSONS APPARENTLY DEAD FROM CHLOROFORM.

Leedham-Green, in the *Birmingham Medical Review* of February, 1895, under this title, writes of what is often called Maas's method, which was described in the *Berliner Klinische Wochenschrift* for 1892, in an article by Dr. Mass, of Göttingen. Little notice was taken of it at the time. It was, however, again brought prominently forward by Professor König at the Surgical Congress at Berlin in 1893. The method advocated was a slight but important modification of the well-known one suggested by Professor König himself. As originally practised by that professor, the operator, standing on the left side of the patient and facing him, placed the ball of the thumb of the opened right hand upon the patient's chest, between the place of the apex-beat of the heart and the sternum. He then repeatedly pressed in the thoracic wall with a quick, strong movement, at the rate of thirty times to the minute.

Dr. Maas was led, through the following incident, to modify the procedure in one particular and thereby greatly to enhance its value: A boy, aged nine years, while under chloroform for cleft palate, suddenly ceased to breathe; the pupils dilated and

the face became cyanotic. He was at once treated by Professor König's method; but both pulse and respiration became gradually weaker, until at length they stopped altogether and the boy was considered to be dead. Dr. Maas, who had been compressing the thorax at the usual rate, on learning that the respiration and the heart's action had entirely ceased, became excited and commenced to compress the chest-wall very quickly and strongly (at about the rate of 120 to the minute) and in a short time was agreeably surprised to observe the pupils contract and to detect faint attempts at respiration. Although the boy's life hung in the balance for fully an hour, during which time this quick compression had to be continued, in the end he recovered.

Since that time the quick compression of the præcordium has invariably been used in the Göttingen clinic and with the best results. While acting there as assistant to Professor König, Leedham-Green had several opportunities of testing its value and was much struck with its efficacy in case of heart-failure. But the most striking instance of its efficiency that he has met with was one in which he had occasion to use it a few weeks ago. The circumstances of the case were these: A healthy child, four months old, was under operation for circumcision in the out-patient room of the Queen's Hospital. The child took the chloroform at first very well and, the operation being almost concluded, the lint on which the chloroform had been given had been laid aside for a moment or two. Suddenly the child became deathly pale, the pupils dilated, and the respiration and the heart's action ceased. The operation was instantly stopped, the head was lowered and the tongue was pulled well forward. As the child made no attempt to breathe, artificial respiration (Sylvester's method) was energetically used. This proving ineffectual, the child was completely inverted for a few seconds, being held up by the heels. Sylvester's method was again tried, but

without producing the slightest effect either on the breathing or on the heart. At this point Green happened to come into the room, just as the anæsthetist declared the child to be dead. He at once examined the child and could not find any trace of life whatever. There was no impulse of the heart to be felt, nor was there the slightest effort to breathe; the surface of the body was pale and cold; the eyes were shrunken and pupils widely dilated; at the mouth and nostrils a collection of froth appeared, together with some stomach contents, which had been forced up during the artificial respiration.

Although Green did not for a moment doubt that the child was dead, yet, in desperation, he at once commenced the rapid compression of the præcordium, as described above. For fully three minutes he worked away, apparently [with no result, during which time his colleague and he discussed the painful questions of informing the waiting mother and the unpleasantness of an inquest. Suddenly they were surprised and delighted to hear a faint gasp, followed in a few seconds by another.

A little later they felt a weak heart-throb and in a minute or two more the child began to cry and all danger was passed.

The points of special interest to be noted in this case are: (1) the length of time (seven minutes) during which neither heart-beat nor respiratory effort could be detected; (2) the inadequacy of Sylvester's method and inversion to re-establish the circulation and respiration, neither of them producing the slightest apparent effect; (3) the complete recovery of the patient under the rapid and forcible heart compression.

There can be no doubt that the efficacy of König-Maas's method lies in its direct action on the heart, restoring not the respiration only, but the circulation also. If, on a fresh cadaver, the præcordium be quickly and forcibly compressed, it is easy

to detect a distinctive pulsewave in the carotid arteries and the pupils will be found to contract as the blood fills the capillaries of the iris.

Although this method is naturally easier of application upon the flexible chest of a child than on the rigid thorax of an adult, yet age does not preclude its use. It need hardly be mentioned that provision must be made for the free entry and exit of the air to and from the chest.

A method so simple and rational, and withal so effective, Green feels sure only requires to be better known in order to be more generally adopted.

THE STABILITY OF AQUEOUS SOLUTIONS OF BICHLORIDE OF MERCURY.

Burcker (*Archives de Médecine et de Pharmacie Militaires*, April, 1895) finds, as a result of experimentation, that ordinary water causes an immediate decomposition of bichloride of mercury; that this decomposition steadily continues under the influence of air and light. This decomposition ceases or becomes arrested when air and light are excluded. Solutions of bichloride of mercury made in distilled water undergo only trifling decompositions even when exposed to air and light.

Guillot (*ibid.*) examined the emergency packets made for the army. Each of these contained sterile gauze impregnated with bichloride of mercury, one-tenth of one per cent. by weight. He found that a reduction took place, the mercury being transformed to insoluble salt, so that in eighteen months no bichloride of mercury could be found.

HÆMORRHAGE FOLLOWING THE EXTRACTION OF A TOOTH ARRESTED INSTANTLY BY ETHYL CHLORIDE.

The *Lancet* for January 25th publishes the following report of a case by Mr. A. E. Hind: The patient, a girl twenty years old, had a tooth extracted at noon. At ten o'clock at night she was

bleeding freely from the socket of a lower molar tooth and she stated that the bleeding had been continuous since the extraction of the tooth. Pressure and plugging with perchloride of iron had been resorted to without any result. Remembering, says the author, a similar case in which all ordinary methods of treatment had been resisted, he resolved to try freezing with ethyl chloride spray. After clearing out the clots, the author used the spray and was able to stop the bleeding immediately. To prevent its recurring, he plugged the socket with wool soaked in tincture of hamamelis. There was no pain and no more blood escaped. Although ethyl chloride is used for producing anæsthesia in small operations, this case, says Mr. Hind, suggests a further use of it.

NEW OBSERVATIONS RESPECTING PERKINSON'S DISEASE.

Paralysis agitans always presents a special contraction of the muscles. Trembling is commonly present and muscular atrophy is sometimes found. This disease is thought by Gautier to be wrongly classed with the neuroses. Instead of being considered a functional malady of the nervous system without any appreciable lesion, it must be considered a disease of the muscles. The nervous system is involved only secondarily, the primary seat of the disease being in the muscles, the nutrition of which has been impaired. Gautier asserts that this disease is only the manifestation of a disorder pertaining to the elasticity of muscle. But this muscle has its own individual life; it nourishes itself; it has a variable composition. When at rest, the reaction is alkaline; when contracting, the reaction is distinctly acid.

Suppression of muscular elasticity results from the production of sarco-lactic acid, an acid phosphate of potash. These products accumulate in the tissues as the result of energetic, long-continued, and repeated contractions; hence any cause capable of

provoking or favouring this accumulation will determine a contracture. Thus paralysis agitans is very frequent, in certain persons whose professional duties are very taxing. This view of the disease suggests at once the proper mode of treatment, which consists in increasing the elimination of the irritating substances and in improving nutrition by appropriate dietary.

STAINING AND MOUNTING TUBE-CASTS.

Dr. Byrom Bromwell describes in the *British Medical Journal*, the following method of staining and mounting tube-casts and other urinary deposits:—

“The recognition of tube-casts under such circumstances is greatly facilitated by the use of staining reagents. Picrocarmine is the stain which I chiefly use. The method which I adopt is as follows:—

“1. An ordinary conical urine glass is filled with equal parts of urine and an aqueous solution of boracic acid and set aside until the deposit settles.

“2. The deposit is then drawn off by means of a pipette and transferred to an ordinary test-tube, in which a small quantity (half a dram is quite sufficient) of picro-carmin solution has been previously placed.

“3. The urine and staining fluids are then thoroughly mixed by inverting the test-tube two or three times, the end being closed, of course, by the thumb.

“4. The test-tube containing the urine and staining fluid is then set aside to stand for twenty-four hours.

“5. The deposit, which has by that time settled at the bottom of the test-tube, is then drawn off by a fine mouthed pipette, placed on a slide, covered and examined under a low power.

“If any tube-casts are present, they are very easily detected by this method.

“When a cast is detected, it should be carefully brought to the centre of the field

and examined with a higher power. If amyloid degeneration is suspected, methyl-violet may be used, for in some cases of waxy disease of the kidney the tube-casts give the characteristic rose-pink reaction with methyl-violet. For permanent preparation, the deposit is drawn off as in No. 5, above, and transferred to a small tube of Farrant's medium, in which it remains until the organic deposit has settled, when it is again drawn off and transferred to clear Farrant's solution, whence it is mounted in the usual manner. All organic deposits are thus stained and mounted in a perfectly clear medium. Their minute characters can be studied with the highest powers of the microscope.”

THE INFLUENCE OF HEAT APPLIED OVER

THE STOMACH UPON DIGESTION.

A Russian physician, M. Pouschkin (Wretch, October, 1895), has, by experiments upon six healthy persons, definitely determined the following facts respecting the influence of fomentations over the region of the stomach. The general result was to increase digestive activity. The total acidity and the quantity of free hydrochloric acid were increased; the amount of combined chlorine was diminished. Fermentation was diminished, while the production of peptone was increased, as was also the digestive activity of the gastric juice, together with the motor functions of the stomach.

The increased activity of digestion induced by the application of heat was found to persist for several hours and, in some instances, for several days. Practical experience long ago demonstrated the utility of the application of heat over the stomach as a means of increasing digestive activity. The writer has made use of this valuable information for more than twenty years and with excellent success in a great number of cases.

AVOID COUGH MIXTURES IN PHTHISIS.

The *American Practitioner and News* says to the patient suffering from phthisis, "Never take cough mixtures if they can possibly be avoided," with which the writer heartily agrees. The patient, however, must have something to relieve his cough. What shall it be? Sipping very hot water is a remedy of great value for relieving the cough of phthisis, as well as most other forms of cough. A cough resulting from irritation is relieved by hot water, through the promotion of a secretion which moistens the irritated surfaces. Hot water also promotes expectoration and so relieves the dry cough.

BISMUTH PASTE FOR ORCHITIS.

A thick paste consisting of subnitrate of bismuth and water is the best application for swollen testicles. It relieves the pain and the burning sensation and the swelling rapidly subsides. It is equally useful for burns and scalds and as an application for sunburn, blistered skin, and chafing of the groin.

THE HOT BATH IN CEREBRO-SPINAL MENINGITIS.

Worroschilsky reports, in the February number of the *Therapeutique Monatshefte*, two cases of cerebro-spinal meningitis treated by the hot bath, in which most excellent results were obtained. The effect of the bath was, almost invariably, to produce sleep, reduce the temperature, and diminish pain in the head. The bath usually lasted from eight to ten minutes; temperature 104° F.

A RAPID STAINING METHOD.

Collen (*Centr. f. allg. Path. u Patholog. Anat.*, 1895) describes a rapid method of staining fresh tissues, after hardening with formalin. By this method sections can be stained in the postmortem room within fifteen minutes of the removal of the tissue from the body. The fresh material is frozen, sections are cut and placed in a fifty per cent. watery solution of formalin for five

minutes, thence into a fifty per cent. alcohol solution for three minutes, and lastly into absolute alcohol for one minute. They are then washed in water. Such sections can be stained at once and mounted in the usual way.

PARALDEHYDE.

Frederick P. Hearder, M.B., C.M. Edin., writes to the *British Medical Journal* as follows:—"In the Journal of February 29th Dr. Aitken speaks of the value of paraldehyde as a hypnotic and sedative. I wish to draw attention to a less generally recognised action of the drug—namely, as an antispasmodic in that most distressing malady—asthma. Dr. W. Mackie has a note on this action in the Journal of January 14th, 1893, in twelve cases of spasmodic asthma. Since that date I have exhibited the drug, with good effect, in about thirty cases of asthma, including ordinary spasmodic asthma, asthma with epilepsy, with morbus cordis, with renal disease, with chronic bronchitis, and in two cases of asthma with pneumonia. In the majority of the cases relief was rapid and complete, and in the remainder the distress was lessened. The dose employed was 45 to 60 minims, one dose being usually sufficient, a few cases needing a further dose of 35 to 40 minims an hour or so later. The hypnotic action of the drug, also, is of great service, as in so many cases of asthma the attack comes on in the evening or during the night. Using the above doses, I have never observed any untoward action of the drug, but, on the contrary, the breathing has gradually become easy and normal, the pulse steadied and strengthened, the patient falling into comfortable sleep. A disagreeable feature of the drug is that it scents the breath strongly for about twenty-four hours. A point in dispensing is that the addition of a few drops of alcohol renders paraldehyde perfectly miscible with water; any flavouring tincture can be used for this purpose."

THE ADMINISTRATION OF DRUGS TO
CHILDREN.

The *Therapeutic Gazette* for September draws attention to the importance of this subject, quoting Danchez (*Rev. Internat. de Méd. et de Chi. Pratiques*, May 25, 1895).

The following points are important in reference to prescribing:—

(1). That the substances most easily administered are the tinctures and alcoholic extracts, in the form of drops (aconite, digitalis, belladonna, laudanum, etc.), mixed with sweet liquids, as black currant syrup, Malaga wine, currant syrup, prune juice, orange liquorice, coffee, and sometimes distilled water. Certain powders that are very active may be mixed in small doses with soups which the children take as daily food; thus may be used scammony, bismuth, magnesia.

(2). That the elixirs, the biscuits (scammony), the pastills (lactate of iron), the chocolate (iodides), the electuary (honey and syrup of althæa), mixed with sulphur, with senna ($\frac{1}{2}$ to 2 drachms), magnesia ($\frac{1}{2}$ to 2½ drachms), confections and syrups, can be used in pharmacy to mask the taste of drugs, according to the special liking of the child.

One should avoid using prescriptions containing over five drachms, one ounce, or two ounces; at least, not over this amount should be administered in forty-eight hours to a child of eight or ten years of age.

In prescribing very powerful drugs it is well to avoid danger by prescribing them always in solutions of known percentage.

(3). In giving very active drugs to very young children it is generally best to write out the name and amount of the drug fully, not in figures, and to state at the top of the prescription that it is for a very young child and that the drops should be counted.

In certain cases, where the tolerance and docility of the child are not good, recourse may be had to certain medicaments that are capable of being absorbed through the skin or mucous membranes, such as fumigations of naphthaline, tar, benzoin, carbolic acid,

creosote, balsams, resins, &c., inhalations of oxygen, eucalyptol, turpentine, tinct. of iodine, and camphor.

INSECT BITES.

They doubtless have more experience in America with insect bites than we have in England, and we therefore give the following prescription from *Archives of Pediatrics*:—

Insect Bites:—

Ammonia	...	...	45 minims.
Collodion	...	...	15 "
Salicylic acid	...	...	1½ gr.

S One drop to be applied to each spot affected.

A SALICYLIC ACID OINTMENT FOR GONORR-
HOEAL AND OTHER FORMS OF
ARTICULAR RHEUMATISM.

℞. Acidi salicylici	}	...	dr. iiss.
Lanolin			
Olei terebinth			
Adipis	oz. iii.

BOURGET.

It is reported of this application that the acid is so thoroughly absorbed that it is afterwards found in the urine in large quantities, also that the local and general effects are most satisfactory. (*Therapeutic Gazette*, June, 1895).

FOR ECZEMA OF THE FACE.

Carefully remove all the crusts. Avoid water. Keep the following ointment constantly applied to the lesions by means of a soft linen mask.

℞ Ung. picis	...	...	dr. i.
" diach.	...	...	" ii.
" zinci ox.	...	...	" ii.

Mix. Sig. For external use.

—*Archives of Pediatrics*, May, 1895.

FOR ECZEMA OF HANDS AND FINGERS.

(Unna: *Monatsh. f. Prakt. Derm.* 19, 1894).

℞ Zinc oxid.	...	40 parts by weight.
Cretæ preparatæ	20	" "
Liq. plumbi acetatis	20	" "
Olei lini	...	20 " "

The first two ingredients are to be well blended, the last two well mixed, and then the whole to be worked into a paste. Sig.—zinc paste.

GLYCERINE OF IODO-TANNIC ACID FOR
VAGINAL APPLICATION.

(*Gez. de Gynaec.* 221, 1895).

R Tincture of iodine ... 4 parts.
Tannic acid ... 4 "
Glycerine ... 15 "

Dissolve and filter.

To be applied by means of tampons to the cervix uteri and left in place twelve hours in cases of vaginitis, uterine engorgements, with or without cervical endometritis.

—*Quarterly Medical Journal*, Oct. 1895.

FORMIC ALDEHYDE IN OPHTHALMIC
PRACTICE.

By JAMES MACKENZIE DAVIDSON,
M.B., C.M.,

Surgeon to the Aberdeen Ophthalmic Institution and to the Royal Hospital for sick Children, and Physician to the Asylum for the Blind, Aberdeen.

The results I have obtained with this substance in the treatment of some diseases of the eye have been so notable that I am induced to publish this short article upon its use. The preparation I am using is Schering's formalin (which consists of forty per cent. formic aldehyde in water forming a stable solution if kept in a well-corked bottle). One part of formalin in 2,000 or 3,000 of water is the strength of the solution which I find most serviceable. When I tried it first in hypopyon ulcers it was dropped into the affected eye three or four times daily, and it seemed to be of very little use, but on applying it freely every hour I have never seen anything act so effectually in these cases.

Everyone engaged in ophthalmic work in a manufacturing town knows how numerous and troublesome, and indeed often disastrous, are the cases of septic abrasions of the cornea ending in hypopyon ulcers. The granite and engineering works in Aber-

deen gives us ample experience in these kind of cases.

The usual antiseptic applications so often fail to benefit such injuries that recourse has to be had to the electric cautery; if this is to be thoroughly effectual the focus must be burned out completely and consequently more or less of sound corneal tissue is destroyed as well: whilst the scar left is frequently wonderfully slight still no one can doubt that if the process can be at once arrested by local antiseptic applications the results are even better.

My experience warrants me in claiming that in a solution of formalin, 1 in 2,000 or 1 in 3,000, applied every hour freely we have such a substance and it would be of interest to know if others come to the same conclusion. Used in the same way, or less frequently as experience may dictate, it acts admirably in abrasions of the cornea which have become septic and infiltrated and might or might not go on to suppuration. Another great advantage is that the severe pain so characteristic of hypopyon ulcer is speedily relieved by the formalin solution, which, further, is non-poisonous and produces no irritation in the strength recommended. The directions I give to the patient are to lie down and then, with a dropper or failing that a teaspoon, the formalin solution is poured gradually into his eye, while the eyelids are kept winking, so that its surface will be freely bathed; this being done hourly during the day and at night also should the patient happen to awake.

One is always afraid in advocating the use of a comparatively new drug that one's judgment may insensibly become unduly biassed in its favour if it acts at all well, but I have used formalin now for some months, having had the opportunity of hearing the opinion of fresh and impartial observers familiar with the usual methods of treatment and results, and without exception a most favourable opinion has been formed of its value, especially in septic

abrasions and hypopyon ulcers, provided it be applied freely and frequently, not less than hourly in severe cases. Atropine is only used sufficiently to keep the pupils dilated in these cases. Since using formalin in this way I have not had to use the electric cautery once. Of course there are cases in broken-down subjects, and those that are too late in seeking advice, where suppuration of the cornea may not be arrested by any means, but I consider that formalin should have a fair trial, even in such, and supplement operative treatment.

DIARRHŒA IN INFANTS.

℞ Benzonaphthol.
Bismuth. subnit.
Resorcin āā gr. jss.

M. Sig.: For a child one or two years of age one such powder every two hours until six have been taken.

EWALD.

INFLUENZA.

℞ Quininæ sulph. ... dr. i.
Pulv. digitalis. ...
" scillæ ... āā gr. xx.
Ext. opii ... gr. v.
" glycyrrhizæ ... q. s.

M. et ft. pil. No. xxx. Sig.: Take a pill four times daily.

PEPPER.

BRONCHITIS.

℞ Ammonium chloride.
Sodium iodide ... āā dr. iii.
Syrup of Tolu.
" " senega āā f. oz. iss.

If a spasmodic element be present, sodium iodide $2\frac{1}{2}$ grains may be added to each dose.

ESHNER.

TREATMENT OF PHTHISIS BY CHLORIDE OF AMMONIUM.

Chloride of ammonium has been found very useful by Mr. Kebbell, of Flaxton, York, in doses of $7\frac{1}{2}$ grains in milk every three or four hours. This treatment gives rise to a great increase in expectoration, an

improvement in appetite, a diminution of night sweats, and also it promotes sleep.

Mr. Kebble states that chloride of ammonium thus given surpasses any drug that he has seen used in the treatment of phthisis, especially as regards helping expectoration.—*Lancet*, December 14, 1895.

PSORIASIS BEGINNING ON THE NAILS.

In the *Archives Cliniques de Bordeaux* for September, Dr. Dubreuilh gives the following case. A little girl aged six was brought to him early in January, 1895, with an affection of the nails which he diagnosed as psoriasis. The disease had appeared in September, 1892, on the nail of the left thumb, since when the nails of the first, second, third and fourth fingers of the right hand had become affected. The lesions were typical of the disease, but had not appeared on any other part of the body. The diagnosis was, however, confirmed when, on January 25, a typical patch of psoriasis appeared on the right thigh. The case is interesting, as Ludwig Nielsen, in a work based on the study of 616 cases of psoriasis, writes that 'there does not exist any authenticated observation of psoriasis limited to the nails, for in no case has the typical skin eruption appeared afterwards to confirm the diagnosis.'

THE DANGERS OF COCAINE.

In connexion with Mr. J. H. Marsh's notes on the dangers of cocaine as a local anæsthetic, in the *British Medical Journal*, September 28th, p. 780, the following case may be of some interest:—

Having occasion to evacuate a chalazion from each eyelid in a man aged twenty-five, I instilled into each conjunctival sac three or four drops of a five per cent. solution of cocaine hydrochlorate and a few minutes afterwards proceeded to incise the cysts and scrape them out; but while operating on the second the patient suddenly became blanched, perspiration broke out on the forehead,

the pupils dilated, the respirations became sobbing and after a slight convulsion he became rigid, only his shoulders and hips touching the chair in which he was sitting. All these symptoms passed off in a few seconds, though the patient remained pale and complained of feeling faint for some time.

Both this and another case I observed some time ago occurred during very warm weather, but this may be a mere coincidence.

LOCAL ANÆSTHESIA.

Dr. Theophilus Parvin, at a meeting of the County Medical Society, Philadelphia, on November 13th, read a paper on Schleich's Method of Local Anæsthesia by Subcutaneous and Parenchymatous Injections of Weak Cocaine Morphine Solutions, and demonstrated the effect in his own person by allowing an incision an inch in length to be made in his forearm, and to be stitched up, under its influence, in the presence of the Society. He declared it to be an absolutely painless procedure and predicted great future usefulness for this method in surgery, expressing his belief that at least fifty per cent. of the operations now performed under general anæsthesia will ultimately be done by this method, which he declared suitable even for major operations,

LORETIN: A NEW ANTISEPTIC!

By HERBERT SNOW, M.D., LON., ETC.,
Surgeon, Cancer Hospital.

Loretin is an organic iodine compound discovered by Professor Claus, of Freiburg. Its formula is $C_6H_4In.Oh.S_2O_3H$, and its euphonious proper title in chemical nomenclature meta-iodo-ortho-oxyquinoline-ana-sulphonic acid. It is a bright yellow odourless crystalline powder, very slightly soluble in water and alcohol; cold water takes up one to two parts per 1,000, boiling water five to six; it is insoluble in ether and oils, forms emulsions with the latter and with collodion. Being an acid it forms neutral salts with sodium and potassium, with ammonium and magnesium, which are readily

soluble in water, forming solutions of a deep orange yellow colour; the neutral calcium and barium salts are only slightly soluble. The manufacture process consists in boiling together in water equal parts of potassium iodide, potassium carbonate and oxyquinoline-sulphonic acid with chloride of lime, representing one atomic equivalent of chlorine. After cooling, a little hydrochloric acid is added. Thus is formed the calcium salt of loretin, which is again decomposed with hydrochloric acid to obtain the crude drug, subsequently carefully purified. The pure acid is extremely stable for an iodine compound, being unaffected by prolonged exposure to air or even to direct sunlight; it is easily decomposed only by oxynitrogen compounds, by free chlorine and bromine, or by certain organic compounds already undergoing decomposition.

Ammelburg administered, for several weeks in succession, loretin to dogs in doses up to 10 g., rabbits to 5 g. Hypodermic injections amounting to five c. cm. of a five per cent. solution of the sodium salt of loretin, were made daily into guinea pigs for long periods. In not a case did any objectionable symptoms follow and in the urine, which was carefully collected by means of specially constructed cages, no iodine, blood, sugar, or albumen appeared. These physiological experiments were continued by Professor Albrecht in the Veterinary High School at Munich, the results being published in the *Deutsche Zeitschrift für Thiermedizin und vergleichender Pathologie*, 1894, vol. xx., p. 353.

Ammelburg's bacteriological investigation proved loretin to be a powerful microbicide, much superior to iodoform, with which comparison more particularly holds weight. They deal with the micro-organisms of cholera, anthrax, suppuration, typhus, etc. Some of the more significant tables are appended; the experiments are being still continued.

Schinsinger has extensively used loretin

for burns and operations of all kinds, including empyema, herniotomy, resection of the upper jaw, arthrotomies, carious and tuberculous processes, etc.; in six months he had not a single instance of toxic symptoms, much less of death. Feusling has largely employed it in veterinary practice, with the most favourable consequences. The former remarks: "The absolute absence of any irritant effect upon the skin is a very important advantage. Artificial erythema or eczema I have never yet observed caused by it; but, on the other hand, very persistent eczema has been cured by loretin." Extensive burns were healed by dusting with loretin and left very slight scars.

Loretin is recommended for use as a dusting powder, either alone or mixed with calcined magnesias, starch or French chalk; as collodion (two to ten per cent.); in pencils of cocoabutter (five to ten per cent.); in ointment, five to ten per cent., with vaseline or lanoline; in solution of 0.1 to 0.2 per cent. of the free acid, or one to two per cent. of the soluble sodium salt; lastly, as gauze impregnated with precipitated calcium salt. My own experience is confined to the powder, which I have never found occasion to mix with any other substance. Dusted on the skin, or over a granulated wound, this causes not the slightest irritation or unpleasant sensation. It immediately destroys the malodour of the most foetid cancerous sore, controlling this in a manner which no other agent I have yet tried will do. Copiously puffed with an insufflator into the deep cavity formed by evacuating the axilla of carcinomatous glands, it efficiently precludes suppuration, even when free hæmorrhage has taken place after the closing of the wound, an occurrence almost inseparable from anæsthetic vomiting when the patient has been removed from the operating table. Not the slightest bad symptom from its employment in this way has so far been detected. When there is no deep cavity a wound dusted with loretin heals rapidly by first intention. I have had

recourse to loretin in some sixty cases, mainly operations on the breast and axilla, notoriously a test region for antiseptics. In my hands it has proved an ideal antiseptic and deodorant with no single drawback; and I am sure that no surgeon who has once tried it will ever again resort to the noisome and toxic iodoform, from the free use of which I have seen more than one death. Though whenever old established agents answer sufficiently the purpose I have a strong prejudice against novelties, yet this substance—non-poisonous, devoid of smell and absolutely preventive of suppuration—seemed to me so marked an advance upon anything previously brought forward, that I felt constrained to direct thereto the notice of the section.

In a postscript in *B. M. J.* of December 28th Dr. Snow writes: "I am forced to supplement my paper on Loretin in the *British Medical Journal* of December 21st by pointing out a peculiar quality, which the six months' experience gained since the July meeting has shown me it possesses. While taking first rank as a non-poisonous, non-irritating, odourless antiseptic and deodorant, I find that when dusted on a raw surface it relaxes the blood vessels. Hence the wound is prone to become subsequently filled by a clot, which, however, does not suppurate, as would be the case under almost any other circumstances, but is eventually reabsorbed. The incident is not desirable, and I now apply loretin only to the skin surface, never dusting it into a cavity unless there be special risk of suppuration, and then only very sparingly. I would take leave to add that long experience has shown me the ideal condition in which to leave any operation wound is the utmost attainable maximum of dryness, avoiding all swabbing with fluids, however antiseptic. It is probable that the efficacy of iodo-form, loretin, and the like, is very largely due to their capacity for absorbing moisture, without which microbe proliferation does not occur.—I am, etc.

TANNIN AND IODOFORM IN THE TREATMENT OF WOUNDS.

Ceccherelli (*Ref. Med.*, October 19th, 1895) draws attention to a method of treating granulating wounds, which he has tried with success for the last six years. The method consists in dusting the surface with an equal mixture of iodoform and tannic acid. He finds that tuberculous ulcers, granulating wounds, etc., heal better under this treatment than under a simple iodoform dressing. At first he tried tannic acid and pot. iod. in solution, but this proved too irritating and had to be abandoned. An iodo-tannic syrup (Ki. g. 2, ext. rhatan. g. 8, syr. ad 1 kil.), given internally, seemed to be of much use in tuberculous cavities of bone. In fungating wounds with flabby granulations the mixture of iodoform and tannic acid acted very well. The astringent and stimulating action of the tannin, as well as its chemical action, added to the antiseptic and anti-tuberculous action of the iodoform, made the wounds heal more quickly than they had done on a simple iodoform or tannic acid dressing.

 ICHTHYOL IN THE TREATMENT OF BURNS.

Leo Leistikow (*Monatsh. f. pract. Derm.*, November 1st) has during the last six years used ichthyol in the treatment of burns of the first and second degree with the best results. The application of this substance at once eases pain and the anodyne effect is lasting. Even in extensive burns of the second degree the oedema quickly subsides, the hyperæmia disappears, and as the destroyed tissue has been shed the regeneration of epithelium begins. The remedy can be applied in many different ways—in powder, in wet compress, in collodion, in salve or plaster mulls, varnishes, ointments, or pastes. Leistikow mostly uses it in powder, in paste, or in salve mull. The latter is best used in the form of zinc-ichthyol salve mull (Beiersdorff) and is most serviceable

in circumscribed burns of the first and second degree, particularly on the face and extremities. The dressing should be changed once every twenty-four hours. The powder is most useful in extensive burns of the first degree on the trunk, and it must be sprinkled thickly and frequently on the part. The paste is used in extensive burns of the second degree and when there is much inflammation it is advantageously combined with the powder treatment. The formula of the powder is: \mathcal{R} Zinc. oxydat., 20.0; magn. carbonic., 10.0; ichthyol, 1.0 to 2.0. That of the paste is \mathcal{R} calcar. carbonic., 10.0; zinc. oxydat., 5.0; amyli, 10.0; ol. zinc., 10.0; aq. calois, 10.0, ichthyol, 1.0 to 3.0.

 A METHOD OF WASHING ECZEMA.

A corollary of the extensively-held modern view of the probable parasitic etiology of eczema is the necessity for cleanliness as an element of treatment, while the long-known injurious influence of water on eczematous surfaces raises a difficulty. The use of olive oil as a substitute for water for the purpose of cleansing the skin, and, indeed of removing the grime of manufacturing trades, is commonly known, but its value is not sufficiently recognised. Although I have long advised patients with eczema to use this method, it is only recently that I have been impressed with its adaptability for continued use and of its value when persevered in. The following case is an instance in point:—

A lady, aged forty-eight, was attacked with acute erythematopapular eczema of the face, which continued to spread rapidly until the application of water, either for washing or in lotion, was suspended. When washing with oil was adopted the disorder rapidly subsided, and so satisfied is she with the general effect on the skin that the patient has for two months not allowed water to touch her face. The method employed is to smear the skin well with a pledget of cottonwool saturated in olive oil.

The oil is then removed by gently rubbing the surface with a corner of a dry soft towel covered with toilet oatmeal.

Pustular eczema I find generally requires washing at intervals with soap and water.

A NON-IRRITATING EXCIPIENT FOR
OPHTHALMIC OINTMENTS.

W. Allan Jamieson (*Brit. Journ. Derm.*, April) finds the following "an ideal ophthalmic salve:" R lanolini (Liebreich) dr. iij; ol. amygdalæ aq. destill. āā dr ss. M. If smeared thinly on the lids this occasions no unpleasantness and it may be employed when it is desirable to use a salve to prevent the lids becoming glued together by any increase of the lachrymal secretion. It is, however, better as a rule to add a couple of grains of boric acid to correct any slight tendency to rancidity, though this is not prone to happen, even if the ointments be kept for a time. In eczema of the lips the salve forms an excellent medium for the yellow oxide of mercury so beneficial in such conditions. Two grains may be added to the half-ounce. According to the testimony of patients, the salve gives a pleasing sensation of coolness without trace of smarting or irritation. Its curative influence, the author says, is equal if not superior to that of any of the other eye salves prepared with bases.

ANTIPYRIN IN TANNIC ACID SOLUTION
AS A STYPTIC.

Roswell Park (*Philadelphia Medical News*, November 16th) has for years used a 5 per cent. solution of antipyrin in the form of a spray (sterilising the water before making the solution) in surgical practice. He sprays this on any surface, peritoneal or other, from which parenchymatous oozing may be taking place to an extent complicating the operation or jeopardising the success of an ideal dressing. He uses it also in the urethra and in the bladder in cases of hæmaturia. Even in the eye it may be used without fear, its application being preceded by that of a

weak solution of cocaine; in this situation, however, the solution need not be so strong. On the other hand, it may be used in much larger percentage when the 5 per cent. solution fails; even when small vessels spurt, compression for a few moments with iodoform or acetanilid gauze steeped in the solution will be effective. There are cases of bleeding, however—for instance, from the nasal cavities or from divided bone—in which even stronger solutions of antipyrin will be inoperative. Roswell Park now calls attention to a combination of antipyrin and tannic acid in solution, by which there is precipitated an intensely agglutinative and cohesive substance of which he does not know the chemical composition, but which seems to him to be an ideal styptic. He hit upon the combination by accident in an emergency (intractable bleeding after removal of adenoid growths), when he added antipyrin in powder to an alcoholic solution of tannin, with the result that there was at once formed a gummy mass of surprising adhesiveness. The application to the post-nasal space of a small sponge dipped in this material at once stopped the bleeding. The author has since experimented with these substances and finds that they may be mixed in almost any proportion. It is possible by pouring the powder of one into the solution of the other, to precipitate so much of the agglutinative composition as to make a gum that may be placed about the margin of the bleeding bone—for instance, in operations upon the cranium; or a small piece of sponge or cotton sopped in this material may be forced into a tooth socket, or in various other ways its use may be advantageous. There is but one attendant difficulty—that it is so remarkably cohesive that when the time comes for detachment or separation of the tampon it is difficult to remove it. It may even be necessary to wait a sufficient time for the formation of granulations and separation by natural processes.

SENILE EPILEPSY AND GRIESINGER'S SYMPTOM

OF BASILAR THROMBOSIS.

(Ueber "Senile Epilepsie" and Griesinger'sche Symptom der Basilarthrombose).—B. Naunyn, Strassburg (*Zeitschrift für klin. Med.*, Bd. xxviii., Hefte 3 and 4).—Naunyn quotes three cases of so-called senile epilepsy which he had observed in recent years and which are of interest in so far that, in all three, attacks, similar to those observed in patients spontaneously, could be induced by compression of the carotids in the neck. The first was sixty-five years old and had suffered from "fits" for one and a half years. These occurred several times a week. He had extensive arterial degeneration and slight hypertrophy of the left ventricle. Compression of both carotid arteries in the neck had the effect in a half to one minute of producing a convulsion, the patient losing consciousness and the pulse-rate falling from 80 to 48. Digitalis had a good effect on the seizures; bromide of potash was practically useless. The second patient was a somewhat similar case. He was seventy years old and had, in addition to the "fits," degeneration of arteries and enlarged heart. In the third case—a man of sixty-three—there was mitral and aortic valvular disease. Compression of the carotids brought on, as in the others, a well-marked convulsion. The patient eventually developed senile mania and died. At the post-mortem, patches of softening were found in the right hemisphere. The vertebral, basilar and carotid vessels were of normal width. In one communicating posterior artery was a small yellowish spot. Experiments by carotid compression have been frequently done on man; indeed, they were recommended as a mode of treatment in epilepsy and they have been carried out without harm. Naunyn points out that they are not so harmless as they appear, as one of his own

cases proved, the patient requiring artificial respiration for some time before he recovered. He carried out some trials in persons under thirty, but compression of the carotid led to no result; in two men over fifty, unconsciousness, with slowing of pulse and slight general convulsions, set in. Griesinger had in 1862 recommended compression of the carotid vessels as a diagnosis for closure of the basilar artery. Kussmaul and Concato observed the symptom in a number of cases and the latter found it in old patients with sclerosis of vessels. In all three cases quoted by Naunyn the attacks apparently depended upon brain anæmia, which readily occurred on account of arterio-sclerosis, or weak heart action. A sign of cerebral anæmia we have in a distinct decrease in the pulse-rate during a fit. Stokes has already called attention to the association of "fits" with brain anæmia in patients who suffer from cardiac weakness, degeneration, aneurism, etc. Sometimes these are merely fainting attacks, at other times genuine epileptiform fits. Naunyn classes his cases under this explanation. Two of them, further, showed no improvement under the bromides, while digitalis succeeded in relieving them. The third case showed that Griesinger's symptom cannot be always due to basilar thrombosis. There was no anomaly in the circle of Willis. All its branches—carotid, basilar and vertebral arteries—were intact. Griesinger had maintained that an epileptiform attack would be produced by compression of the carotids if thrombosis of the basilar artery circle was present; but it may take place otherwise as well, where there is disturbance of the general blood supply to the brain, as in valvular disease, weakness of the heart and in general sclerosis. Though disease of the carotid, basilar, or vertebral arteries will favour the occurrence of this phenomenon, the symptom will not possess any special diagnostic importance.

SUBCUTANEOUS ADMINISTRATION OF
ARSENIC.

(Zur Methode der subcutanen Anwendung des Arsens).—Professor von Ziemssen (*Deutsch. Arch. klin. Med.*, October 25th, 1895).—The excellent results obtained from the subcutaneous administration of arsenic has induced Ziemssen to improve the form in which it is used. His success in a case of Hodgkin's disease and in two cases of lichen ruber has suggested to him a much wider application. The injection of the official liquor containing potassium arseniate gives rise to much pain and inflammatory swelling and even abscess and gangrene, so that the preparation is, as a rule, unsuited for the purpose. The reason of this lies in the mode of preparation and in the presence of a mould which rapidly settles in the solution. To overcome this Ziemssen has adopted the following:—One gramme of arsenious acid is boiled in a test-tube with five cubic centimetres of normal soda solution until it is completely dissolved; the solution is then shaken in a flask, diluted to 100 grammes and filtered. For use, it is placed in small tubes of 2 c. cm. size, which are corked with cotton-wool and sterilised in steam. Of such a 1 per cent. solution of sodium arseniate a quarter of a centimetre is used at first once a day; after several days, twice daily: and gradually increased until a whole syringeful is given twice a day—a daily dose of about three-tenths of a grain of sodium arseniate being given. These large doses, if administered with caution and if slowly increased, can be borne and produce no disturbance of the appetite. In delicate, nervous patients there sometimes appeared after large doses a condition of increased nervous excitability, a feeling of bodily weakness and mental exhaustion. These symptoms soon vanished on intermitting the injections and did not return.

PRACTICAL NOTES.

Prof. Vaughan cautions against the continued employment, although so plausible,

of predigested foods. "The digestive organs, like all the organs of the body, are enfeebled if relieved of their physiological duties. The too rapid absorption of peptones may be harmful and, physiologically, it is questionable whether proteids which have been completely converted into peptones are ever largely utilised in the body in building up tissue. It is probably fortunate that in the great majority of instances artificial digestion is incomplete and the supposed peptones are actually albumoses." "As a rule, the indigestion is confined to the digestive fluids which act either upon carbohydrates or the proteids. In the former case the stools are acid and the formation of gas marked, and a diet should be adopted consisting exclusively of proteids, meat broths and egg albumin. Proteid indigestion is likely to produce foetid alkaline stools and a diet of carbohydrates will prove beneficial: barley gruel, rice water and solutions of dextrine obtained by roasting or boiling wheat flour." "If parents were willing to pay for wholesome uninfected milk half the fancy price they readily give for some prepared baby food their children would be better nourished and disease among them would be less frequent."

Prof. Vaughan insists that few intestinal antiseptics have any real value and astringents still less. He excepts bismuth, which is both antiseptic and astringent, and advises its administration not only by the mouth, but in enemata, containing one or two drachms suspended in half a pint of water. The writer's underestimate even of salol is perhaps influenced by the strength of his conviction that the main treatment of intestinal indigestion must be dietetic. Cases of cholera infantum "are cases of acute poisoning, and prompt energetic treatment is demanded as truly as if the child had swallowed a toxic dose of arsenic or antimony. The physician who hesitates or temporises loses his patient." The first thing to do is to forbid the further administration of the poison by cutting off every

drop of milk—even sterilised, or even from the breast. The second step is to remove the poison by irrigation of stomach and bowels with hot salt water; the third thing, to administer 3.5 grains of calomel for an anti-fermentation action on the small intestines, inaccessible to irrigation; then whisky as a stimulant in boiled water cooled in an ice-cooler and containing 0.1 per cent. muriatic acid. Ice should not be put into the water. In subacute milk infection Prof. Vaughan prefers fresh, uncooled, uninfected milk from a cow to sterilised milk, which he only advises as a substitute in case the other cannot be obtained.—*Practitioner*, January, 1896.

FOR SPASMODIC COUGH.

R	Pot. Bromid.	...	dr. i.
	Vin. Ipecac.	...	iss.
	Tr. Belladon.	...	iss.
	Syr. Tolu.	...	vi.
	Aq. ad	...	oz. iv.

S. One or two tablespoonfuls every three hours.

MENTHOL IN VOMITING OF PREGNANCY.

Dr. Weill states that every form of vomiting during gestation can be relieved by a twenty per cent. solution of menthol in olive oil; dose, ten drops on sugar whenever nausea appears.

TREATMENT OF GANGLION.

S. Duplay (*Arch. Gén. de Méd.*, Dec., 1894) recommends a new and simple method for treatment of ganglion. He injects from five to ten drops of tincture of iodine into the ganglion. A bandage is applied, partly with the object of exercising pressure and partly of fixing the adjacent articulation. The cure is usually complete in five or six days. Sometimes a second injection may be necessary on the fifth or sixth day. Recurrence has been known after all the usual methods of treatment; in one of the author's cases the ganglion had already been twice removed.

BELLADONNA.

Professor H. Kobner (1) of Berlin, recommends belladonna for such affections of the mouth as *Lucoplakia*, *Mercurial Stomatitis*, *Syphilitic Ulcerations*, *Mucous Patches*, etc. The theory upon which the remedy is accepted is its antisialagogue properties and it should be employed in conjunction with cauterization. He remarks it is advisable in many cases to continue the administration of the remedy for some time in full doses and that under its influence ptialism, and pain on mastication and deglutition, rapidly disappear.

Dr. William Murray (2) of Newcastle, after referring to the peculiar susceptibility of some patients to the action of belladonna, refers to its usefulness in the following class of cases:—

(1.) *Renal Colic*.—Here he considers that the drug must be pushed until slight delirium supervenes, that is, by giving 30 or 40 drops of reliable tincture every two or three hours; secondly, it must be given during an attack of colic. It is of no use except the colic be present. It may relieve the ordinary wearing pain of stone in the kidney, but it will not move the stone except the patient is in the throes of an attack of renal colic. When once this occurs he ought to be prepared with the necessary doses and begin immediately, even before sending for his medical attendant. In such cases careful instructions ought previously to be given to the patient. Dr. Murray cannot say that anything in his experience has given him more pleasure than finding the calculus awaiting him after a few hours of this treatment by toxic doses of belladonna.

(2.) *Dysmenorrhœa*.—Let it be admitted that dysmenorrhœa is due to spasm, or to mechanical obstruction plus spasm, or plus neuralgia, or plus inflammatory or congestive action in or connected with the uterus, and there is a large field for the action of belladonna. A patient well under the influence of the drug is not likely to suffer much from spasm, so that the spasm-

dic element can be eliminated in a case by a full dose or two of belladonna. If after these doses pain still continues there are no doubt other elements in the case mechanical, congestive, or inflammatory. The neuralgic element is also to a great extent eliminated by belladonna, so that one can get rid of these two causal elements by means of this remedy and thus the diagnosis is simplified. By far the best method of administering the drug for pelvic pain is the use of the suppository of i. grain of the extract repeated every two or four hours. The suppository should be used as soon as the first sign of pain indicates the molimen and, although it is a somewhat disagreeable mode of administration. Dr. Murray thinks the general use of belladonna suppositories in this ailment ought to be advocated; many sufferers from even slight dysmenorrhœa ought to be provided with this remedy and instructed in the use of it. Dr. Murray also recommends belladonna strongly in cases of *Painful Defæcation* and *Obstruction of the Bowels*, and quotes some successful cases in proof of the latter point. He does not consider that the effect is simply due to the relaxation of fibre caused by the drug. It appeared more as if the intestines were roused from their dormant state into violent activity by the drug. There is nothing opposed to physiological experience in Dr. Murray's views. It is known that when frogs have been poisoned by belladonna and put aside for dead they frequently exhibit, during the process of recovery, powerful spasms of the muscles, closely resembling strychnine poisoning, and, if it were safe to carry the administration of belladonna far enough, probably the same results would be produced in the human subject. How far it may be safe to push the action of belladonna until tetanic spasm is produced is another question. That some have great toleration for the drug, and others extreme susceptibility, is widely known. We have seen toxic symptoms produced by one drop of 1 in 1,000 solu-

tion of its tincture, and cases of grave physiological disturbance caused by the use of the ordinary solution of atropin in ophthalmic practice. On the other hand Dr. Murray records a case where eight grains of belladonna extract, taken by mistake, produced little effect on the patient.

SOME OF THE CONTRA-INDICATIONS OF OPIUM.

In a clinical lecture upon some of the uses of opium, Dr. W. B. Cheadle, of London, speaks a word of caution as to its use in Bright's disease, where profound and fatal coma may be produced, especially by its hypodermatic use. In cases of fatty or largely-dilated heart, the hypodermatic injection of morphia in full dose is attended with risk. Children are susceptible to its influence in inverse proportion to their age. He has seen fatal coma occur in a child of 6 months after a rectal injection of $\frac{1}{2}$ drachm (2 grammes) of tincture of opium, and complete narcosis in a child of 14 months from $2\frac{1}{2}$ grains (0.16 gramme) of Dover's powder. Another fact, usually ignored, should also be remembered, viz., that, if opium has been given freely, its sudden stoppage causes great nervous depression, often severe vomiting and diarrhœa. This is the effect in cases of the opium-habit and Dr. Cheadle has seen the same results follow the discontinuance of the drug in patients in which it had been given systematically. In exophthalmic goitre, for example, in which its use produces excellent effects, sudden discontinuance would be most disastrous. In these cases it is wise to let the patient down slowly and safely by gradual reduction.—*The Clinical Journal*, September 26, 1894.

A SUBDIAPHRAGMATIC ABSCESS SIMULATING EMPHYEMA.

Such a case forms the subject of an article by Dr. F. Tilden Brown, to appear in the forthcoming *Report of the Presbyterian Hospital* of which an advance proof-

sheet has kindly been sent us. The patient was a woman, twenty-nine years old, a native of Ireland, who had been married for five years. She was admitted on June 9th, 1893. Two years before she had been delivered of a dead child after protracted and instrumental labour. A year later she had begun to have pain in the left inguinal region. This pain had continued for seven months, when complete obstruction from faecal impaction had made her critically ill. Being relieved, she had subsequently kept herself free from abdominal pain by using small daily doses of castor oil. She entered the hospital for the repair of a lacerated cervix and perinæum. Perinæorrhaphy and trachelorrhaphy were performed on the 11th. On the 19th she complained of pain in the right umbilical region. On the 21st her temperature rose suddenly to 103.6°; pulse, 125; perspiration, 20. Free catharsis and quinine effected a temporary fall of temperature. On the 26th the temperature was still between 103° and 104° every afternoon and she had pain in the left lumbar region. She vomited frequently and looked sick. Nothing was found on examination. On the 30th it was noted that for the last few days her temperature had not been over 100°, but pain in the left side continued. She vomited at times. On date she complained of pain in the abdomen, was restless, vomited, had diarrhoea, and again had a high afternoon temperature. Lavage of the colon was given. On the 20th she continued to have afternoon fever, followed by profuse sweating, and had been delirious the night before. Pain in the side was complained of. On the 21st an aspirating needle was introduced in the eighth intercostal space, above and behind the angle of the left scapula, and a yellowish fluid withdrawn. Examination showed it to be pus and by culture a pure growth of colon bacillus was obtained. On the 25th she had a large and painful double parotiditis. On the 29th it was noted that until then the

patient and her family had declined an operation. She was now in a critical condition. Under ether anaesthesia aspiration was practised in the eighth intercostal space, in the mid-axillary line, and pus drawn. An incision was made upon the seventh rib, and an inch and a half of the bone was excised. There was no bulging forward of the parietal pleura. On making an incision through the tissue which presented, which looked rather more like muscle than compressed lung, the subdiaphragmatic abscess was for the first time suspected. Through the completed incision the finger could touch the concavity of the diaphragm above and, on evacuation of a large quantity of offensive pus and broken-down tissue, the apex beat could be reached on the inner side and what appeared to be disintegrated spleen toward the lower side of the wound. Hot douching brought away much additional debris. Generous drainage with tubes and gauze was employed. The wound was covered with the usual dressings. The patient rallied but little, despite stimulation and saline infusion and died at noon on the following day.

At the autopsy, nine hours after death, the left lung, at the base, was found hyperæmic and adherent to the diaphragm; otherwise both lungs and pleuræ, also the heart, were normal. The stomach at its cardiac end had a hard, finger-sized, white fibrous adhesion connecting with the upper part of the spleen. On the mucous surface of the stomach, opposite the adhesion, there was no gross evidence of any former perforation or ulcer. The spleen was of three times its normal size and nearly separated into two equal parts by a large necrotic infarct, the base of which was at the convexity of the organ. The upper half of the spleen was drawn toward the stomach by the fibrous band and occupied a position at right angles to the normal axis. Firm adhesions connected the splenic halves to all surrounding parts except the

diaphragm above. The peritoneal cavity was thus protected. Both kidneys had numerous small white infarcts. On the posterior lower surface of the uterus there was a fibroid of the size of a duck's egg. The tissues of the perinæum and cervix uteri appeared normal, and the process of repair seemed perfect. There was no gross evidence to intimate that infection had occurred in connexion with the operation.

The history of fecal impaction, says Dr. Brown, was explained at the autopsy by the presence of a uterine fibroid indirectly invading the lumen of the rectum. The suspicion of subdiaphragmatic abscess should have occurred when the first pus drawn by aspiration yielded only a culture of *Bacillus coli communis*, added to the fact that there had been no pre-existing pulmonary history, although the physical signs corresponded to and naturally suggested empyema. The occurrence of double symptomatic parotiditis should also have aided to attract attention to the probability of a process involving the peritonæum rather than the pleura. Meltzer, in his paper on subphrenic abscess, says Dr. Brown, refers to the error apt to ensue from placing too great reliance upon physical signs and cites in evidence Wintrich's mistaking a subdiaphragmatic abscess containing air for a pyopneumothorax; yet he does not wholly agree with Leyden, who maintains that the ætiology and history of the existing sickness is the only means of diagnosing a subphrenic abscess from an empyema or pyopneumothorax, for in two of the cases which he (Meltzer) has had himself such a dependence for diagnostic purposes would have proved deceptive where subphrenic abscess existed, yet the primary cause was located in the cavity above the diaphragm in both cases. Moreover, he believes he has demonstrated that there are cases of intrapleural effusion with an exclusive and pronounced abdominal history. Penrose and Dickinson have reported ten cases of subdiaphragmatic

abscess, in all of which a gastric perforation was found at the autopsy. In another case there was no perforation, but a cicatrized ulcer, where the cicatrization had apparently taken place subsequently to the formation of the abscess. In my case, says Dr. Brown, it is rational to presume that the same conditions pertained; and that the compact fibrous band uniting the stomach and spleen was a former walled-in fistula leading from a gastric perforation to the seat of the abscess. Whether the prostrating attacks of abdominal pain, experienced by the patient three months before entering the hospital, were due to obstructive intestinal colic or to a gastric ulcer and localized peritonitis can only be relatively inferred. At all events, the operation on the cervix and perinæum appears not to have had any connexion with the fatal septic processes afterwards manifested. The case affords an opportunity to emphasize what may prove to be of value in the diagnosis between subdiaphragmatic abscess and empyema—namely, when pus which is aspirated from a region common to both affections yields on culture a pure or mixed growth of *Bacillus coli communis* there is a strong probability that the point of suppuration is situated below the diaphragm.

RADICAL CURE OF INGUINAL HERNIA.

Mr. J. Hutchinson, Jr., performed the operation of radical cure after the same method on two consecutive subjects—one a young soldier, the other a man of fifty years. In both cases the aponeurosis of the external oblique was fully exposed, with the external ring and upper part of the cord. The sac was dissected out cleanly up to the internal ring, the epigastric artery marking this point; the sac was then brought through a small linear incision in the abdominal muscles above and outside the position of the internal ring; it was twisted up and laid in front of the cord (separated from the latter by the muscles).

Four or five silk sutures passed through the external oblique above and below the twisted sac, and also through the latter, were securely tied, thus completely closing the small opening made in the abdominal wall and fixing a sort of a pad in front of the canal. As the external ring was large in each case, an additional suture was employed for its pillars. No drainage-tube was inserted and with antiseptic dressings firmly applied it was not anticipated that it would be necessary to change them for eight days. Having performed a large number of operations for inguinal hernia after this method (which is the one advocated by Professor Kocher, of Berne), Mr. Hutchinson thoroughly advocates it from experience of its results. The alleged drawback that the twisted and sutured sac may slough he has, he said, never observed. A few cases of suppuration have been met with but this, he thought, was no fault of the method.—*Medical Press and Circular*.

COCAINE IN PERTUSSIS.

In the treatment of whooping-cough, three hundred cases are reported where very small doses of cocaine were given, with good results,—one-sixteenth of a grain, increased if necessary to one-fourth grain. Large doses must be avoided. It is claimed that children bear cocaine better than adults do.—*Medical Times*.

WEST SUSSEX DISTRICT SOCIETY.

On Delivery in Certain Cases of Impaction of the Trunk of the Fetus.—Prof. Herbert R. Spencer, of University College, London, gave some practical points in connexion with those cases of head presentation in which, after delivery of the head, it is found that the child's body will not pass through the pelvis without reducing its size. In such cases it is sometimes impossible to deliver the child's body un mutilated after the head has been born, especially through a contracted pelvis.

Apart from the rare cases of double monster and of tumors external to the child's trunk, the difficulty may be due to the large size of the child. The largest foetus he had ever seen weighed 13½ pounds (6.2 kilogrammes), and required mutilation on account of its great size; but through a small pelvis a child of half this weight may be unable to pass.

With a normal pelvis the obstruction formed by the child's trunk may be due to pathological conditions either in the serous cavities or in the viscera. Disease enlarging the thorax to any considerable extent is very rare. A slight serous or bloody effusion in the pleura is very common and he had once met with acute pericarditis in a new-born child; but these effusions very rarely enlarge the thorax sufficiently to cause obstruction in labour. The trouble will almost always be found in the abdomen. One of the most common causes of obstruction is distension of the child's abdomen with the gases of putrefaction,—a somewhat rare occurrence even in fetuses which have been dead for some time. It is, however, a good rule, in all cases of obstructed labour, to percuss the uterine tumor; a tympanic note will indicate the cause of the obstruction. Another not infrequent source of distension is ascites or peritonitis, by which sometimes the belly is distended to an enormous size. He had seen the vagina distended sufficiently to form an abdominal tumour and great distension of the bladder and uterus had been met with by other observers; but the only other causes of obstruction which he had personally met with have been distension of the colon by meconium in cases of imperforate anus, cystic kidneys, hydrocephalus, distended ureters, and enlargement of the liver and spleen in syphilitic children. The diagnosis of the cause of obstruction can usually only be made by careful exploration under anaesthesia. The question of treatment then arises. Traction upon the child's head in

order to deliver the trunk should be made with caution and judgment; the employment of great force has caused rupture of the uterus.

If judicious traction fail to bring down the trunk it may be necessary to reduce the width of the child's shoulders. With this object he had found it a useful plan to snip through the clavicles with scissors; then, if necessary, to pass a blunt hook into the axilla and thus bring down the arms. If delivery is still impossible, it may be necessary to remove the head in order to gain room for further manipulations; but before decapitating it is advisable to seize the neck with a strong volsella furnished with interlocking teeth, which will prevent the trunk from receding out of reach. Usually not much advantage is gained by opening the thorax and the broken ribs are troublesome. The hand should be passed up to the abdomen, which should be opened with the scissors or the perforator, when, if the obstruction is due to gas or liquid effusion, the obstruction is immediately relieved and delivery effected; in other cases it may be necessary to remove the abdominal viscera.

In transverse presentations it is rarely that version cannot be performed and in impacted transverse presentation it is very rarely that decapitation is impossible. He had twice met with cases in which neither operation was possible. In both instances the pelvis was contracted and the soft parts œdematous and in one there was the complication of placenta prævia. The uterus was retracted and as hard as a board; the back of the child presented; it was impossible to introduce the hand far enough to perform version or decapitation. He successfully adopted and recommended the following method of treatment in such cases: Make an incision through the skin of the child's back and cut through its spine with scissors; then apply Braxton Hicks's cephalotribe (the points of which meet when the instrument is closed) to the sides of the

trunk of the child and screw up the instrument. By making traction with the cephalotribe the soft parts are brought down and may be cut through with scissors. The delivery of the two halves of the child's body then presents no special difficulty.—*British Medical Journal*, April 13, 1895.

DRY ECZEMA WITH PRURITUS.

Menthol, 2 grammes (31 grains); *resorcin*, 1 gramme (15½ grains); *precipitated sulphur*, 10 grammes (2½ drachms); *zinc oxide*, 15 grammes (3¼ drachms); *vaseline*, 30 grammes (1 ounce).—THIBIERGE, *Thérapeutique des maladies de la peau*, Paris.)

PRURITUS VULVÆ OF MENOPAUSE.

Morphine sulphate, 6 grains (0.39 gramme); *boric acid*, 1½ drachms (6 grammes); *camphor-water*, 6 fluid-ounces (186 grammes). Mix. Label: Poison. Apply to the affected parts after ablution with warm water and Castile soap.—(B. F. BAER, *Philadelphia Polyclinic*, March 30, 1895.)

IMPACTED CERUMEN.

When the impaction is hard, dry and adherent, and injections of lukewarm water fail, use the following: *Sodium carbonate*, 0.50 gramme (7½ grains); *glycerine, water*, each 5 grammes (1¼ fluidrachms). Drop 10 drops into the ear and let it remain 10 minutes. Renew the injections of warm water in two or three days, which will generally suffice for the removal of the body. Do not use the curette or stylet except to slightly displace the mass and permit the jet of fluid to surround it. Sometimes an oily solution of 2 per cent. *salicylic acid* may be necessary, followed by injections of *alkaline water*. When the cerumen has been removed, close the meatus with cotton for from twenty-four to forty-eight hours—(COURTADE) *Manuel pratique du traitement des maladies de l'Oreille*. Paris: Maloine.)

BALSAMS IN OCULAR DISEASE.

G. Norsa has used balsam of Peru and balsam of Tolu, in the form of 1 to 3 per cent. ointments, in ciliary blepharitis, superficial keratitis, opacities of the cornea, phlyctenular kerato-conjunctivitis, superficial corneal ulcerations, deep ulcers with iritis, hypopyon, and other affections. He finds that the remedies are well borne, have an antiphlogistic and antiseptic action, and that they serve as excellent cicatrizants, especially for the cornea.

TREATMENT OF FURUNCLES.

R. Antonewicz, in cases of furuncle (*Voyenno Medical Journal*, January, 1895) from twenty-four to forty-eight hours old, takes a drop of crystallized carbolic acid on the point of a sound, beats it to the melting-point and presses it on the furuncle, rubbing it slightly. Pain ceases on the second day, and no further treatment is required. In cases three or four days old carbolic acid does not abort the disease, but it does change its course, rendering suppuration painless.

ADAPTATION OF CIRCULAR METHOD
OF AMPUTATION.

A. G. Miller, of Edinburgh, has successfully employed, in several instances of disarticulation at the knee and elbow, an adaptation of the circular method of amputating, by which a long single flap is secured (*Edinburgh Medical Journal*, July, 1895). The whole point and simplicity of the procedure depends on the well-known tendency to contraction of the soft structures of the flexor aspect of a limb, as compared with the extensor, after the tissues are divided. At the elbow and knee this tendency is increased by extending the joint and thus putting the skin on the flexor aspect on the stretch, while the skin on the extensor surface is completely relaxed.

The method of procedure is as follows: The limb being held out quite straight, a

circular incision is made in the ordinary manner below the condyles ($1\frac{1}{2}$ inches in the arm and $2\frac{1}{2}$ in the leg), down to the deep fascia. The skin on the flexor aspect (anterior in arm and posterior in leg) at once retracts considerably, making the line of incision oblique. Two small incisions are now made from immediately below the condyles to the original cut. The flexor flap will now still further retract, and, aided by a few touches of the knife, will almost disappear.

The extensor flap is now dissected up as far as the head of the tibia in the leg and to above the olecranon in the arm, care being taken to cut on the deep fascia, and so to reflect the subcutaneous cellular tissue and its contained blood-vessels along with the skin. This flap is loose and ample, being taken from a part where the skin is naturally redundant in order to accommodate itself to the normal action of flexion. (The appearance of the elbow and knee during flexion and extension demonstrates this clearly.) After reflexion of this flap—practically the only one—disarticulation should be performed (on the arm and knee both) from the front, the patella being saved in the latter case. It will then be found that there is a long flap on the extensor aspect (anterior at knee and posterior at elbow), with practically no flap at all on the flexor aspect of the condyles. After the blood-vessels are secured and the nerves drawn out and cut short, this single flap folds nicely over the condyles, being, indeed, in its natural place, and is easily secured by stitches. When healing has taken place, the appearance of the stump is very natural and most satisfactory.

The circular incision requires, at the elbow, to be made only about $1\frac{1}{2}$ inches below the condyles. It is, of course, necessary to have sufficient flap to cover the condyles. If a mark be made $1\frac{1}{2}$ inches below the condyles, with the arm extended, and the elbow be then completely flexed, it will be seen that the anterior portion of the

line has slipped up on to the upper arm, while the posterior portion comes up over the condyles quite easily, even with the olecranon in position, which, of course, is dissected out in disarticulation. It is therefore evident that a low amputation and much skin is not necessary for this operation. In disarticulation at the knee the author, by this method, obtains a long, square anterior flap by a single cut, practically speaking, as the two small incisions might be dispensed with, and with little trouble in the way of measurement. The important point is to have the leg fully extended, so as to provide for looseness and length in the anterior flap and immediate and considerable retraction on the posterior aspect. If the lateral cuts below the condyles are not made, then the amputation (after retraction) becomes oblique or oval. After disarticulation the long anterior flap of skin can be stitched, so as to make the cicatrix either transverse (like a long anterior flap operation) or longitudinal (like a Stephen Smith amputation). In this operation the cicatrix is well up on the flexor aspect, and does not adhere to the bone as in circular amputation.

RAPID DILATATION OF THE UTERUS.

In performing rapid dilatation of the uterus Amand Routh (*Lancet*, June 22, 1895) practices the operation the first day possible after menstruation has ceased, as at that time the cervix is soft and relaxed and partially patent. As it is difficult to dilate a non-secreting cervix, he induces secretion by having a wool tampon soaked in glycerin introduced into the vagina against the external os uteri, two hours before operation. The addition of some cocaine to the glycerin may possibly allay spasm. If the cervix is likely to be unusually rigid he passes into the cervix and, if possible, through the os internum, a strip of antiseptic gauze, soaked in glycerin and iodine, six or eight hours before the operation, or

even over night. A few bougies may be passed if necessary to enable this to be done. These aids are almost always sufficient, but in 1 or 2 per cent. of cases it may be impossible to pass the little finger, and the uterus can be swabbed out and packed fairly tightly with gauze for twenty-four hours, when it will easily admit the finger. A tent would here be absolutely contra-indicated, and by these aids the author has been able to entirely dispense with tents for the past five years, in both hospital and private practice.

James Braithwaite, of London (*British Medical Journal*, June 29, 1895), also recommends dilatation of the cervix on the last day of the menstrual period, instead of between the periods, as is the almost universal practice. Many years ago he accidentally discovered that if the dilatation is done just when the discharge has ceased the parts are perfectly elastic and soft, and has very little resisting power. Hegar's dilators can, in many cases, be passed in, one after the other until No. 17 is reached, admitting the passage of a medium-sized index finger. An anæsthetic is necessary, as the patient will not remain sufficiently quiet. Two Sims's hooks close together, so that the handles are held as one, are better than a vulsellum. They hold better, and are less likely to scratch the operator's finger. The process should be done leisurely, but it does not take above twenty minutes. The smaller sizes of the dilators should have the terminal inch a little curved forward and less in size, so as to enter more readily. This plan opens up quite a vista of utility in other cases than those of dysmenorrhœa; for instance, it is often next to impossible to examine with the finger the interior of the uterus of a sterile woman over 40 years. The parts absolutely refuse to dilate sufficiently. But, by dilating on the last day of the period it can be done very easily. Every uterus does not yield so readily as described and, indeed, now and then a tough cartilaginous

os internum is met with which almost refuses to yield at all; but even this is more dilatable than it would be in the intermenstrual interval.

BELLADONNA TO OVERCOME THE CATARRH
CAUSED BY POTASSIUM IODIDE.

George Cohen, of Hull, Eng. (*Lancet*, July 13, 1895), has been able in three cases to stop the catarrh following the use of 10 grains (0.65 gramme) of *iodide of potassium* and $\frac{1}{2}$ ounce (16 grammes) of *water* by adding to this mixture 5 minims (0.32 gramme) of *tincture of belladonna* per dose in order to reduce the salivary secretion. It also counteracts the so-called depressant action of the potassium.

FACE-ACHE.

W. M. Capp, of Philadelphia (*Medical News*, June 15, 1895), recommends the insufflation of *sodium chloride* into the nasal cavity for the relief of acute pain in the face and head. In five cases of face-ache from decayed teeth the pain disappeared at once upon the contact of pulverized *table-salt* with the mucous membrane of the nose, a glass nose-insufflator being used. In a number of cases of severe headache, without regard to cause, the remedy was equally satisfactory, and also in a case of pain from a furuncle in the external auditory canal, and in another of pain from excessive use of the eyes. The method was first recommended by George Leslie (*Edinburgh Medical Journal*, January, 1890.)

GREEN DIARRHŒA OF INFANTS.

As soon as the first symptoms appear, Baratier, of Jaugny, France (*Trib. Méd.*, July 17, 1895) gives a dose or two of ordinary purgative tea, and, when it has acted, he suppresses all food or drink and gives regularly every two hours 6 tablespoonfuls of the following: *Fat-bouillon*, 1000 grammes (32 ounces); *glycerin*, 100 grammes ($3\frac{1}{2}$ ounces). The bouillon is made fresh

every day, with 1 kilogramme ($2\frac{1}{2}$ pounds) of beef-bones (no meat or vegetables) in 2 litres (quarts) of water, with a pinch of salt. It is boiled over a good fire for four hours until it is reduced to half the quantity, then allowed to cool, the fat skimmed off, and the *glycerin* added. This is essentially a *glycerophosphate* treatment within the reach of all. In the author's hands it causes the disappearance of the diarrhœa in a day or two; but it is continued three or four days and then alternated with milk for about a week, when it is discontinued.

TREATMENT OF MASTITIS.

Kaarsberg (*Hospitals-Tidende*, p. 573, 1895) was induced to try a new treatment of mastitis by having observed that a woman who would not allow incision of her inflamed breast was cured by evacuation of pus from the nipple through sucking and pressure on the inflamed portion of the breast. He has since treated seventeen cases of mastitis by evacuation of the breast partly by sucking and partly by a sort of massage by which the breast is compressed and gently rubbed in the direction of the nipple. This treatment is repeated two or three times every day. Thirteen cases of mastitis which came under observation from the first day of the disease recovered in a few days, and sucking of the child could be continued; four cases in which the inflammation had already led to formation of an abscess had to be treated by incision. The author remarks that veterinary surgeons always treat inflammation of the udder of the cow by milking it.

CORNEAL ULCER.

Cases of intractable corneal ulceration, which have long resisted the usual methods of treatment quickly improve under the use of *glycerite of tannin* and *carbolic acid* prepared according to the following formula: *R Carbolic acid*, 15 grains (1 gramme); *tannic acid*, 30 grains (2 grammes);

glycerin, 1 drachm (4 grammes). M. carefully cleanse the eye with warm sterilized water strongly impregnated with *boric acid*, introduce a few drops of weak *cocaine solution* to annul pain, and, after a wait of five minutes, freely touch the ulcer with the *glycerite* by means of a fine camel's hair pencil. Repeat twice or thrice daily for the first few days and then gradually discontinue as healing progresses. In conjunction with this treatment it is well to maintain the usual instillation of *atropine*. Unpleasant reaction never occurs. (A. S. Hall, *Medical Record*, August 31, 1895.)

HEADACHE.

Dr. C. C. Croll, of Pleasantville, N. Y. (*Pharmaceutical Era*, July 4, 1895), treats headaches as follows: One tablespoonful of *extract of malt* (with a few drops of dilute *hydrochloric acid*, to stop fermentation), after meals. This will digest the starchy food. Five to fifteen drops of fluid extract *cascara sagrada*, if constipation is present,—just enough for one evacuation. Half to one teaspoonful of *phosphate of soda* three times a day. This can be continued indefinitely, without danger, and is more successful than *salicylic acid*. When *phosphate of sodium* is taken internally there are formed in the urine, while it is descending through the lumen of the uriferous tubules, by the chemical union of the uric acid with the salt and the decomposition of the two, an acid urate of sodium and an acid phosphate, the dihydrogen phosphate, and in this way the patient gets rid of his rheumatism, his headache, neuralgia, or other attacks dependent upon too great a quantity of uric acid.

INFANTILE DIARRHŒA.

Louis Fischer, of New York (*Medical Record*, July 13, 1895), adopts the following plan in cases of gastro-intestinal catarrh due to the combined effects of extreme heat and improper feeding: Irrigation of the stomach and bowels, flushing the colon

and rectum until the water returns clear; warm bath, gradually cooled from 90° to 70° F. (32.2° to 21.1° C.), lasting five minutes and renewed every few hours if necessary, followed by an ice-bag on top of the head, the patient being kept in as cool a room as possible. No milk, unless for a nursing, when the breast is discontinued at least one-half a day, to give the stomach rest; *beta-naphthol-bismuth* in doses of 5 to 10 grains (0.32 to 0.65 gramme), for a child of one year, every two, three, or four hours, according to the case; if vomiting persist, rectal feeding and administration of drug in suppository, doubling the dose; no *alcohol*, if possible; cold sponging to check perspiration, using *bay-rum* or equal parts of *alcohol* and *water*.

The following treatment is often employed by Dr. J. P. Crozer Griffith after the bowel is relieved of the irritating material by a dose of *castor-oil* or *calomel*: *Phenyl salicylate*, 1 drachm (4 grammes); *bismuth salicylate*, 3 drachms (12 grammes); *oil of gaultheria*, 12 minims (0.78 gramme); *chalk mixture* to make 3 fluidounces (93 grammes). M. Dose: 2 fluidrachms (8 grammes) every two hours. *Opium* may be added if there is much pain.—*Philadelphia Polyclinic*, August 24, 1895.

WALCHER'S POSITION IN LABOR.

W. E. Fothergill employed Walcher's position in six cases of delivery, five of which are described as promontory projecting, justo-minor, or a combination of these conditions (*Edinburgh Medical Journal*, July, 1895). In the sixth the pelvis was normal, but the head was very large. By allowing the legs to hang down without touching the ground, an average increase of 0.93 centimetre may be obtained in the diagonal conjugate, the *rationale* of this increase being found in the fact that the pelvic girdle can rotate about an axis passing through the two sacro-iliac joints. When the symphysis moves downward in this rotation the conjugate is increased. The weight of the legs

when hanging is transmitted to the innominate bones mainly by the Y-shaped ligaments, causing the rotation described, thus sparing work on the part of the uterus and musculature generally, and avoiding pressure of the head on the symphysis. In high forceps cases Walcher's position saves the perineum from undue pressure by the forceps as well as increasing the conjugate. The strength of the operator is saved, and pressure on the head and pubic symphysis is avoided. In cases not requiring forceps, but where there is difficulty at the brim, the position saves exertion of the uterus and abdominal muscles as well as pressure on the head and symphysis. In all cases where the perineum is in danger in delivery, with or without forceps, this position, or at least extension of the legs at the hips, is of advantage in relaxing the integument and subjacent structures.—Edinburgh Obstetrical Society.

ENURESIS.

Stumpf (*Münch Med. Woch.*, June 11, 1895) has successfully treated fourteen cases of nocturnal enuresis in children by elevating the pelvis. A small flat pillow is placed under the child's head and one or two ordinary pillows under the thighs, so that they lie at an angle of 130 to 150 degrees with the horizontal spine. After three weeks the patients were able to return to their former sleeping position without relapsing. The theory of the author is that elevation of the pelvis causes the urine in the bladder to gravitate back and distend the fundus instead of passing the sphincter, which is apt to become relapsed during sleep.

HAEMORRHAGE AFTER TOOTH EXTRACTION.

Pass a double-silk thread through both sides of the torn gum, either with an ordinary curved needle or a handled needle, and tie firmly over the alveolar border. Remove the stitch at the end of forty-eight

hours. (James McNaught, *British Medical Journal*, July 20, 1895).

THE VALUE OF REPEATED LAVAGE AT SHORT INTERVALS IN OPIUM-POISONING.

Hamburger (*Johns Hopkins Hospital Bulletin*, October, 1894) reports a case of opium-poison in a Chinaman, illustrating the importance of repeated lavage. It was thought that all the poison had been removed from the stomach at the first washing, but two subsequent washings, performed at intervals of several hours, yielded alkaloidal reactions. This re-accumulation of the alkaloids must have resulted from an excretion by the gastric mucous membrane; for it has been shown that it is in the stomach that the elimination of morphine proceeds most actively. In view of this fact, the writer concludes that repeated lavage to remove the alkaloids as fast as they are eliminated must certainly be a life-saving process, whether the poison has been taken by the mouth or hypodermically.

The washing should be practised at short intervals, and the sooner this can be done after the opium or morphine has been taken the better.—*Univ. Med. Mag.*

INFANTILE SCURVY.

In the Bradshaw lecture on "Infantile Scurvy and its Relation to Rickets," recently delivered by Dr. Thomas Barlow before the Royal College of Physicians in London, and published in its entirety in the *British Medical Journal*, is an admirable presentation of modern views regarding this infantile disease which at the present time is attracting considerable attention. We therefore present to our readers that portion of Dr. Barlow's lecture which deals especially with some of the causes apparently conducing to the disease:

"What are the conditions under which adult scurvy arises? There are many predisposing circumstances of faulty hygiene,

but surely there is a sufficiently conclusive experience that prolonged deprivation of fresh vegetables or their equivalents is the most constant factor amongst the antecedents of the disease. I have said prolonged, because it is clear that the organism has the power of drawing on its reserves for lengthened periods to meet the deprivation of a complete aliment; and I have used the phrase 'fresh vegetables or their equivalents' because we now know that fresh uncooked meat and fresh milk are anti-scorbutic as well as, though perhaps not in so rapid a way, as fresh vegetables and fresh fruit juices. Looked at as anti-scorbutics, probably much larger quantities of fresh uncooked meat and fresh milk are needed than fresh vegetables and fresh fruit juices.

"The chemistry of scurvy is still an unsolved problem—or perhaps I should say incompletely-solved problem—for, thanks to the labors of Garrod, Ralfe and others, we know that there is a diminished alkalinity of blood, and probably some fault in the presentment of the saline constituents of the food and in the facility with which they part with their bases. But the problem is possibly biological as well as chemical. It seems fair to say that the further we get from a living food the less is the anti-scorbutic power. Fresh vegetables are more powerful anti-scorbutics than preserved or cooked vegetables. Raw meat is more anti-scorbutic than cooked meat, and raw meat juice than beef-tea. I suspect it will ultimately be found that raw uncooked milk is more anti-scorbutic than cooked milk. What is there, then, in common between the antecedents of our infantile patients and those of recognized scurvy. So far as faulty hygiene is concerned, there is little in common. The majority of the infantile cases have been found in healthy homes and amongst good surroundings.

"Let us turn to the question of food. In the group which I have described, in

no single case at the time of onset of the malady has the child been breast-fed. In the great majority, where complete details have been obtained, these infants are found to have been nourished on what may be called 'preserved foods.' In the front rank come the various proprietary infant foods, prepared by the addition of water to certain powders. Then come the different forms of condensed milk, and the proprietary foods made with condensed milk. Then come cases in which, either accompanied by proprietary food or not, fresh milk has been given, but with extreme dilution, during the latter stages of infancy. Other categories I will speak of subsequently. Now let it be assumed, for the sake of argument, that such a diet as I have described is a scorbutic diet; and that an infant presenting the symptoms described is, at the time, being fed on this diet. The obvious test of the reasonableness of the scorbutic hypothesis is to alter the food in the anti-scorbutic direction, and note the results. For the condensed milk let fresh cow's milk be substituted, as, for example, a full pint for a child of six months old. Instead of the proprietary food let some sieved potato be mixed with the milk every day, and a tablespoonful of meat juice or gravy likewise. Finally, let a tablespoonful of orange juice or grape juice be administered every day in divided doses, mixed with water as required. And what is the result of these very simple alterations? The result in two or three days is startling. As a rule, the food is taken greedily and without digestive disturbance. The child becomes more contented; the tenderness of the limbs rapidly diminishes; the sponginess of the gums almost immediately recedes; the pallor becomes notably less; if there has been any renal hæmorrhage it ceases; fresh ecchymoses rarely appear.

"It is clear that the progress of the disease is definitely arrested. So far as the local treatment of the limbs is con-

cerned nothing is essential but the maintenance of rest in the horizontal position; and this meets another indication, namely, to prevent possible heart failure, consequent upon the extreme anæmia and fatty degeneration. Experience has abundantly shown that the blood tonics, such as iron, arsenic, and phosphorus, are useless if the proper change is not made in the diet; and if the proper change is made they are scarcely necessary; although fresh air and sunshine will not prevent the oncoming of the disease, they probably aid recovery when the food change has been effected. It is occasionally found that after the scorbutic need has been satisfied, and the cachexia has subsided, the child is no longer able to assimilate the large quantities of vegetable material and fresh undiluted cow's milk, which at the beginning of the treatment were taken with avidity and digestion. This also is parallel with what has been found in the treatment of adult scurvy.

"This completes the recapitulation of the results submitted to the profession in 1883. I now pass to the second part of my lecture, and shall state as concisely as I can how far the former conclusions have been modified by subsequent experience and criticism. First let me mention the experience of others. A considerable number of examples have been recorded both at home and abroad. Dr. Cheadle has reaffirmed his original propositions with further illustrations and the account of one important necropsy, to which I will subsequently refer. Dr. Gee, Dr. Eustace Smith, Dr. Goodhart, Dr. Railton, Dr. Sutherland, Dr. Green, and Dr. Charpentier have published cases, or series of cases. In Germany series of cases have been recorded with considerable detail by Dr. Rehn, of Frankfurt, and Dr. Heubner of Leipzig. The general conclusions previously stated have been strongly supported by these two eminent physicians. The most striking confirmation has come from America—a country which

rivals our own in the favor with which proprietary infant foods have been received, and in the reluctance of well-to-do mothers to suckle their offspring.

"The first case which appears to have been observed was in 1889, and was reported by Dr. Northrup, physician to the New York Foundling Hospital. In 1891, eleven cases were collected by him; and in February of this year no fewer than 106 cases were reported to the New York Academy of Medicine by Dr. Louis Starr, Dr. Rotch, Dr. Holt, and others.

"Detailed histories of thirty-six of these have been analyzed by Dr. Northrup. It is obvious from his paper that the clinical and anatomical features described are identical with those of the group under consideration, and the conclusions arrived at are almost word for word those which were stated in 1883. My own experience of this disease since 1883 comprises thirty-three typical examples, besides a number of what may be called "borderland" cases, to which I will presently refer. But after this general enumeration of available material, let me refer to some of the results of the collective experience. First, as to anatomical results. A very striking case was communicated to me by my friend, Dr. Stephen Mackenzie. On *post mortem* examination extensive subperiosteal and endosteal extravasations and fractures of ribs and lower limb bones were found. But in addition there were innumerable small hæmorrhages in the intestines, mesenteric glands, lungs, and the pyramidal structure of the kidneys.

"Dr. Colcott Fox has published drawings of a remarkable case with extremely widespread subperiosteal hæmorrhages. In the American series, collected by Dr. Northrup, there are four *post mortem* examinations recorded. The most important one is Dr. Northrup's case. This was a child eighteen months old with extensive subperiosteal hæmorrhages, but no rickety changes. The necropsy recorded by Dr.

Cheadle presented only slight rickets, and the bones and muscles were free from hæmorrhage. Besides the characteristic hæmorrhages into the gums, there were extensive extravasations into the lungs, and minute extravasations into the intestinal mucous membrane and lymphatic glands. One of the most interesting recent communications is that of Dr. Sutherland, who, whilst laying great stress on the frequency of the limb extravasations, reports a fatal case like Dr. Cheadle's in which the bones were free. Dr. Sutherland has also reported two examples of extensive hæmatoma of the dura mater, which he believes to have been due to infantile scurvy. A similar condition is recorded as occurring in adult scurvy. Since Dr. Sutherland's paper was published I have also had a case of a boy, aged fifteen months, who under my observation presented slight scurvy of the gums. From the history of the disease, I believe it probable that he had had an earlier attack of this disease. At the *post mortem* examination an old extensive hæmatoma of the arachnoid cavity was found. This was possibly due to a long past scorbutic hæmorrhage. At the Children's Hospital, Great Ormond Street, since 1883 three *post mortem* examinations on cases of scurvy have been made; one under Dr. Cheadle, to which I have already referred; one under Dr. Abercrombie, and one under Dr. Lees presented characters identical with those described in the first part of the lecture. Besides the actual necropsies there is a certain amount of anatomical experience which has been obtained by surgical exploration during the life of the patients. The most striking example of this kind was recorded by Mr. Page, in which prolonged incisions were made down to the bone in both thigh and leg, and great masses of blood clot removed. There was recovery, but in addition to the operation an entire change was made by Mr. Page in the diet, and the proprietary food with which the child had been fed since

three weeks old up to nine months was replaced by fresh food. In some of Rehn's cases and in some of the American cases simple exploratory incisions have been made, and the existence of blood extravasation under the periosteum established. Thus far as to anatomical results. And now as to the clinical addenda to our knowledge. Mr. Holmes Spicer has drawn the attention of ophthalmic surgeons to three examples of the curious eye affection which I have already referred to in the first part of this lecture. After pointing out the association of this special form of orbital hæmorrhage with other scorbutic signs, he suggests, in the case of a hand-fed child of seven months, that a similar orbital hæmorrhage was the only scorbutic sign. This is a difficult doctrine to accept, but I believe it to be sound. Out of seven of my cases in which orbital hæmorrhage occurred, four presented the orbital symptoms before the limb symptoms, and in some of these the limb symptoms were slight, there being great local tenderness, much irritability, but little swelling.

"I have spoken of hæmaturia as one amongst the symptoms of our typical group. Dr. Gee, and subsequently Dr. John Thomson, have pointed out that occasionally hæmaturia may be almost the solitary manifestation of scurvy in infants, and that it may immediately vanish after the employment of fresh food. Sir William Roberts has told me that he has observed examples of this scorbutic hæmaturia, without other symptoms, but responding to antiscorbutic diet. I have notes of two cases of hæmaturia in which, though no bone lesions were to be felt other than rickets, there was an excessive irritability, resentment to the slightest touch of the lower limbs, and some amount of anæmia. They had been fed on preserved food, and one of them immediately responded to antiscorbutics; the other I have been unable to trace. These cases lead me to mention another example of what may be called

a borderland condition. There are cases of rickety infants in whom, though no lesions pointing to scurvy can be detected, the irritability and tenderness are out of all proportion to the signs found. The substitution or increase of what may be called "living food" in the diet, will often entirely eliminate this irritability and tenderness, just as in the typical cases which I have already described. I find that Dr. Cheadle and Dr. Eustace Smith have noted a similar experience. Just as we are familiar with a vanishing point of rickets, we may possibly have to recognize a vanishing point of scurvy. The collective experience shows that some of the cases have had an early infancy with much stress and storm in the way of digestive disturbance. The artificial food upon which ultimately they have been nurtured is a sort of survival of the fittest, as being the one attended with least diarrhoea and vomiting; and it is whilst assimilating this artificial food that the scorbutic symptoms have developed. But I wish to emphasize the statement that in chronological order the symptoms of our disease cannot justly be regarded as the last term of a condition of marasmus. It is not in the least comparable to the appearance of purpura at the close of a chronic wasting disease. Further, it is recorded that in a great many cases at the onset there is no obvious digestive disturbances, or one only of very moderate degree. Many of the later reports state that the children were well clothed with fat, and regarded by the friends as well nourished. The immediate determining cause of the catastrophe is difficult to ascertain. In some of the cases, as in adult scurvy, a slight accident—bruise or fracture—seems to have started the complaint.

"One of the most suggestive results of the collective experience relates to the social state of the children amongst whom the disease predominately occurs. The clinical *tout ensemble* of a typical example is as striking in its own way as that of

myxœdema or acromegaly. If this were a common disease in our large out-patient departments of the general hospitals and the children's hospitals it would be recognized; but amongst the very poor it is not a common disease. Of the thirty-three typical examples which have come under my care since 1883, only six were hospital cases. The others were the children of well-to-do people with healthy surroundings and good homes. There was nothing to suggest either wilful neglect or faulty hygiene in any gross sense. We may speak with confidence of what we ourselves observe as to the relative frequency of a disease in different groups of people; but it is somewhat rash to generalize as to the change of type of any disease in different times. Nevertheless, I will hazard the statement that this disease is probably more frequent now than, say, twenty-five years ago. It is, I think, inconceivable that men of the authority of Jenner and West and Hillier should not have insisted upon it if this group of symptoms had often occurred within the common range of their experience. I observe that Dr. Northrup, in his valuable summary of the American experience, states that it seems probable that the disease is increasing in frequency in America. Is there anything noteworthy of late years about the bringing up of the infants of the well-to-do classes? I think it may be safely stated that, besides the increasing difficulty of getting the mothers to suckle their infants, there has been an enormous increase in England and America in the employment of proprietary infant foods. The proprietary foods are much more extensively used among the well-to-do than among the poor. But different forms of condensed milk have also come into extensive use, and to a considerable amount among the poor.

"Is there any other reason why the poor, though by no means exempt from the disease in question, should suffer from it in a remarkable less degree than the rich?

I believe that an important suggestion made by Dr. Cheadle gives a second clew to this remarkable difference. The children of the poor at a much earlier period than those of the well-to-do receive small portions of the same food as that of which their parents partake. No doubt, in consequence of such indulgence, there are occasional primary digestive disturbances. Nevertheless, some breaks are made in the monotony of the diet, and probably some antiscorbutic article of food is taken. Among the children of the poor, potatoes especially are given at a much earlier period than to the children of the well-to-do. Thus, although the children of the poor are rickety, they are much less frequently scorbutic than the children of the rich.

"Thus, to sum up, the children of the poor suffer less from scurvy than the children of the rich, because poor parents cannot afford to buy the proprietary food which the rich parents buy and because the poor parents, even when they use condensed milk, give their children a mixed diet at a much earlier period than rich people give it.

"Are there any addenda to be made to the former results obtained in respect to the diet of the children who were attacked with this disease? I think there are. Permit me to speak first of the results of my own later experience on this point. It still stands out as a striking fact that the proprietary foods are the great offenders, especially those which are prepared with water and with condensed milk, or with a very small amount of cow's milk. Condensed milk is responsible for a fair number. The disease also occurs when very diluted cow's milk is used, and especially when for some reason, after a long employment of considerably diluted milk, the dilution is suddenly carried to a further stage, even with or without the substitution of some artificial food. The disease also occurs when peptonized milk has been given over long periods. Several definite examples have been observed in infants to whom,

for several months, as much as a pint and a half and one quart of humanized sterilized milk have been given in the twenty-four hours. By this preparation I mean milk which has been deprived of half its quantity of casein, and which has been subsequently sterilized, and in several cases stored for some weeks. I think there is reason to suspect that the boiling of cow's milk and prolonged sterilization (especially at high temperatures) lessens, in some degree, its antiscorbutic quality. In Germany and in America the sterilization of milk has become more systematized and extensively adopted than with us. Professor Heubner, of Leipzig, in his summary of conclusions in regard to scurvy in infants, speaks with the greatest caution on this point. He is very emphatic against prolonged sterilization, or sterilizations at high temperatures. The same suggestion is embodied in the summary of the American experience to which I have referred. Any extensive employment of the storing of sterilized milk for long periods by the dairy companies is, I believe, attended with risk; but when we consider the risks of the dissemination of various diseases by unscalded milk, and the serious primary digestive disturbances that arise in connection with it, it would be a retrograde step to say a word in discouragement of the routine practice of scalding milk. There is, I think, a way of meeting the difficulty. If I have made my meaning clear, it will be abundantly manifest that, as a rule, it is the prolonged use of a defective diet which induces the symptoms which we have considered. The early cases of infantile scurvy are very exceptional. The age at which we ought to be on the *qui vive* for the initial symptoms of scurvy is about the eighth of infantile life. If by that period a moderate quantity of scalded milk have been given (say $1\frac{1}{2}$ pint in the twenty-four hours) then, instead of adding one of the proprietary foods, as is the common practice, we may ward off the occurrence of scurvy by the addition of gravy or meat

juice to the milk, but still better by the addition of some carefully sieved potato. The fear of non-assimilation of starch has prejudiced us unduly against the use of living food. Should it be found that potato, cooked and sieved and given with milk and gravy, is not tolerated (which is a very rare event), we have in small quantities of the juice of fresh fruits a ready method of anticipating scorbutic symptoms. There is still one other point to which I must refer as one of the alleged results of the later experience. I refer to the possibility of scurvy appearing in infants at the breast.

"At the discussion on infantile scurvy at the Berlin International Medical Congress, Dr. Pott stated that he had seen one example of twin children suffer from the disease although breastfed. No details are given as to whether the mother was scorbutic, or as to the total amount of milk taken by the infants, but it is stated that their suckling was impossible on account of the soreness of the mouth. No information is given as to other scorbutic symptoms and it seems an open question whether the stomatitis was really scorbutic. The case scarcely invalidates my original contention. In the *Deutsches Archiv für klinische Medizin* for 1880 there is the record of an epidemic of scurvy by Dr. Kuhn, of Moringen. There are thirteen cases of infants recorded, several of them quite young and being suckled by mothers who were scorbutic at the time. These infants suffered from severe catarrh of the mouth, from bronchitis, and from some skin affections, for example, pemphigus, erythema, and in a few cases petechiae. Some of them died, but I fail to find any account of *post mortem* examination. The details are too meagre to help us in our inquiries. The time at my disposal will not permit me to refer at length to the criticisms which have been offered to the view held by Dr. Cheadle and myself as to the pathology of the disease. They may be summarized under these three headings: (1) That the disease is nothing more

than acute rickets; (2) that the food conditions under which the disease arises are different from those in which undoubted scurvy arises; (3) that although the group of symptoms and the pathological appearances present a close resemblance to those of scurvy, these infantile cases cannot be considered true scurvy because they do not occur in an epidemic or endemic form.

"With the first view—that the disease is nothing more than rickets—I have dealt at length in the course of this lecture, and I need not further discuss it. The German physicians, so far as my reading has gone, have relinquished it entirely. With respect to the second criticism—that the food conditions under which the disease arises are not truly scurvy-producing—I have given reasons for the opinion that the diet employed does not come under the category of living food, adequate in quality and amount. I have also shown that inadequacy of living food, plus a basis for rickets, gives the simplest explanation of the typical case. The immediate result of antiscorbutic treatment seems the most conclusive answer to this criticism and in a crude way would seem to be a measure of the proportion of scurvy present in any given case. The third objection—namely, that the scorbutic nature of these cases cannot be accepted because the cases do not occur in epidemics—has been urged recently by Dr. Hoffmann in his work on constitutional diseases. In common with many of the German school, Dr. Hoffmann is dominated by the epidemic doctrine of scurvy and by the hypothetical view that the efficient cause of it is some micro-organism. English physicians since Lind's time are not dominated by the epidemic doctrine. The many undoubted sporadic cases are to them just as significant as, and in some respects more instructive than, those which occur in epidemics. With these examples our cases come into the closest relationship and a perfect series may be traced from infancy, through childhood, to adult life, in which the differences

of symptoms are explainable by the different physiological activity of the tissues specially involved."

THE IMPORTANCE OF INTESTINAL ASEPSIS AND ANTISEPSIS IN ABDOMINAL SURGERY, AS DEMONSTRATED BY THE RESULTS IN A SERIES OF 415 CASES, INCLUDING 160 SUCCESSIVE OVARIOTOMIES WITHOUT A DEATH.

BY J. H. KELLOGG, M.D.

Read before the Battle Creek (Mich.) Academy of Medicine, June 19, 1894.

(Since this paper was read, the statistics have been slightly modified, being increased by a number of additional cases, including one death. I have also added the results of some experiments which, at the time of the reading of the paper, were in progress, for the purpose of determining the influence of laparotomy upon urinary toxicity.)

The importance of intestinal sepsis in all febrile conditions, and in conditions likely to take on a febrile action, has been most clearly pointed out by Bouchard, whose studies of the toxicity of normal and pathological urine by the intravenous injection of rabbits are models of physiological exactness, and have taught us most important lessons in therapeutics, as well as in diagnosis.

Bouchard has shown that great quantities of extremely toxic substances are produced by the action of microbes upon the intestinal contents. An infusion of fecal matter, when carefully filtered and injected into the veins of a rabbit in very small quantities, produces death and that almost instantaneously, so virulent is the poison contained in ordinary fecal matter. Numerous bacteriologists have called attention to the fact that microbes which are non-virulent when growing in infusions of vegetable substances, become extremely virulent and produce most deadly ptomaines when grown in meat infusions, such as beef tea or peptone-gelatin culture media.

Vidal and Roux and other investigators have recently called attention to the readiness with which the common bacillus coli found in the colons of all mammals, acquires most virulent characters, which render it capable of producing abscesses in remote parts of the body, pleurisy, peritonitis, and other inflammations of an infectious character. The intimate relation of this microbe to peritonitis, appendicitis, hepatic abscess, and other septic conditions in the region of the abdomen, has been clearly established, and the conclusion is irresistible that we may properly regard this versatile bacillus as a source of danger in operations involving the peritoneal cavity.

That the microbes which commonly inhabit the intestines may produce peritonitis is evidenced by the experiments of Roux and various other observers, with pure specimens of bacillus coli communis. Both purulent peritonitis and abscesses were produced by these investigators with pure cultures of this germ. Pure cultures of bacillus coli have been found in abscess of the kidney and spleen, in typhoid fever, in peritonitis, in pleurisy, in meningitis, in hepatic abscess, and in abscesses in various remote portions of the body, showing the readiness with which this microbe migrates from the intestines, invading organs even so far distant as the brain. A pure culture of bacillus coli was found in one case of peritonitis resulting from perforation of the intestines. Bacillus coli has also been found in the pleuritic fluid obtained in a case of pleurisy occurring as a complication of typhoid fever.

I regard an unclean condition of the intestinal canal as the most important of all causes of peritonitis. It may operate in two ways:—

1. As a source of direct infection, as is clearly shown by the facts above stated.
2. By encouraging the development of microbes which have been introduced through the operation wound.

Microbes, like all other vegetable organisms, will not grow without a suitable soil. Extensive peritonitis without stagnant fluids in the peritoneal cavity is an impossibility. If the absorbents of the intestines are loaded with ptomaines and other products of putrefaction generated in the intestinal canal, they cannot be at the same time active in draining the peritoneal cavity. The importance of drainage of the peritoneal cavity through the intestines, has been well and frequently brought to the attention of the profession by Dr. Lawson Tait.

When a pupil assistant with Mr. Tait some years since, I one day said to him, "Doctor, what do you consider the most essential things to be done in peritonitis following laparotomy?" He said in reply, in his blunt fashion, and greatly to my surprise, "Nothing at all; the patient who has peritonitis after a surgical operation is certain to die. The time to cure peritonitis is before it begins. If the peritoneal cavity is kept well drained, peritonitis will not occur. The important thing is to keep the peritoneal cavity free from stagnant fluids. I am not afraid of germs; they cannot grow without food.

I have given a great deal of thought to Mr. Tait's remark, and have made it the basis of the post-operative treatment of my cases.

Whenever the patient's temperature begins to rise after an operation, whether it is twelve hours or twenty-four hours, or any time within three or four days following the operation, I take it for granted that there are stagnant fluids in the peritoneal cavity, or putrescent faecal matters in the intestine, and I immediately proceed to adopt most active measures to remove the danger as regarded from this standpoint. A soap and turpentine enema, or an enema of glycerine with sulphate of magnesia is at once administered, and repeated until the bowels are made to move with very great thoroughness; and if this is not sufficiently effective, a saline laxative is administered in doses

sufficient to secure several watery stools. The effect of these vigorous evacuative measures is not only to empty the small intestine, but by draining the portal vessels, to stimulate absorption from the peritoneal cavity. I am satisfied that I have by this method saved the lives of a number of patients, and I am obliged to record only two deaths from peritonitis in 415 ovariotomies performed within the last five years.

A microbe which can produce a pleurisy can certainly set up a peritonitis if only favorable conditions are supplied, and these are to be found in the temporary intestinal paralysis and consequent stasis of intestinal contents which so often follows operations involving the peritoneal cavity, together with the exudation of fluids from the torn and irritated serous surfaces, which offer the best possible medium for the development of pathogenic microbes. The advantage of getting rid of this fluid as rapidly and as completely as possible is a lesson long ago learned by abdominal surgeons from experience, and it has placed the drainage-tube near the head of the list of life-saving devices which have been contributed by the masters of this branch of surgery within the last quarter of a century.

Next to the drainage-tube, perhaps before it in importance, must be placed the Lawson-Tait method of managing the bowels, which consists essentially in thorough evacuation of the bowels before the operation, and the withholding of all food for forty-eight hours after the operation, or until a movement of the bowels has been secured. The superiority of this method over the old method of confining and paralyzing the intestines with huge doses of opium, is attested by every abdominal surgeon who can show a good record of recoveries.

The only modification of this method which I have undertaken is simply an extension of it. I begin the work of getting the bowels into a thoroughly aseptic condition a week or two before the operation in every case where it is possible to do so. Daily,

or every other day, the bowels are washed out by a large colocolyster administered with the patient in the knee-chest or right Sims's position. A gentle laxative is employed for at least two or three days before the operation, and administered so that the patient will come to the operation with the intestines completely emptied of both faecal matter and flatus, a condition which greatly aids the surgeon during the operation, and constitutes one of the most important safeguards against unfortunate complications following the operation.

In addition to this, when possible, I prescribe for the patient for a week or two before the operation, daily gentle massage of the abdomen, when not contra-indicated, daily fomentations, and the most abdominal bandage, to be worn night and day, after the German fashion,—a most excellent means of removing a congested state of the bowels, so common in persons whose bowels are not normally active.

Another measure of preliminary treatment of no small importance, is an aseptic diet. In making up a dietary for a prospective case of ovariectomy or hysterectomy, I keep in mind the antiseptic or aseptic dietary of Dujardin-Beaumetz, which consists essentially of fruits, grains, milk, and eggs. No meats of any kind are allowed.

Oysters and shell-fish must all be discarded on account of their proneness to undergo decomposition in the alimentary canal, as well as outside of it. We may also recall in this connection the fact pointed out by Brieger, that the livers of mollusks commonly contain a noticeable quantity of mytilotoxine, one of the most deadly of ptomaines. The patient is instructed to avoid with most scrupulous care coarse vegetables and all indigestible foods and dishes.

Thus the mischief-making microbes of the intestines are swept away on the one hand, and starved out on the other, so that

a condition of the most thorough asepsis possible is secured.

The same course is pursued, and with even greater vigor, for the first week following the operation, or until the patient is well established in convalescence. A variety of toothsome dishes from which all objectional elements are excluded is provided to tempt the patient's appetite, and complaint is rarely ever heard because beef tea, oyster broth, and similar unwholesome concoctions are excluded from my surgical wards.

Within the last few months I have adopted another measure which I believe to be of very considerable value as a preparation for laparotomy, namely, lavage of the stomach. I was led to the adoption of gastric lavage as a preparation for abdominal section by the observation of the great frequency with which acid fermentation is found in the stomachs of chronic invalids, especially those of the class to which patients requiring the removal of the uterine appendages for the most part belong. Dilatation of the stomach and prolapse of the abdominal viscera, or what Glenard has termed enteroptosis, is found in a very considerable proportion of these cases. The consequence is motor insufficiency and stasis of the gastric contents, which favors fermentation, and thus establishes an unhealthy state, not only in the stomach, but in the small intestine below the stomach, into which the infectious toxic stomach contents are emptied. I find that lavage of the stomach administered the same day of the operation and after the last meal preceding the operation, is an excellent means of preventing the vomiting which so frequently follows the administration of an anæsthetic. Lavage is not needed in all cases, but whether it is needed or not is easily determined some days previously by a test breakfast. In cases in which the patient presents a coated tongue or other evidences of disordered digestion, a test breakfast is administered

a week or ten days before the time set for the operation, or at an earlier period if convenient; and if analysis of the stomach fluid obtained shows fermentation, the dietary is carefully regulated with reference to this condition. Lavage of the stomach is employed daily or every other day, and if there is a considerable degree of fermentation, antiseptic medication is resorted to, to insure thorough disinfection of the intestinal canal.

I am confident that the use of beef tea and other animal foods should be carefully avoided in cases in which it is desired to maintain the highest possible degree of asepsis in the alimentary canal. Beef tea and other meat juices afford the most favorable culture medium for the development of microbes of a most virulent character, especially bacillus coli and other allied microbes which are found in the alimentary canal.

Some months ago I conducted a series of experiments in the Sanitarium Laboratory of Hygiene which very clearly demonstrated this fact. The experiments consisted of the intra-venous injection of rabbits, first with sterilized bouillon, and second, with a bouillon culture of normal fæces. In the first experiment, a rabbit weighing 2.320 kilos received 427 c.c. of bouillon before death occurred. The symptoms resulting were a copious diuresis, a watery diarrhœa, slight clonic spasms, slow respiration, slight dilatation of the pupils, corneal insensibility and exophthalmus. The amount of bouillon required to kill, per kilogram, was 186.5 c.c. The temperature of the rabbit at the beginning of the experiment was 39° C.; at death 36.1° C., indicating a loss of 5.482 calories. The amount of heat absorbed by the injected fluid was 7.728 calories, showing an actual gain of 2.246 calories, notwithstanding the great fall in temperature. In the second experiment a forty-eight hours culture of normal fæces in bouillon of the same strength as that used in the previous experiment was injected

into the vein of a rabbit weighing 1.650 kilos. The death of the rabbit occurred when only 29 c. c. of the filtered bouillon had been injected, about one-fifteenth of the amount required in the previous experiment. The symptoms were as follows: At the end of thirty seconds, pupils contracting; one minute, pupils strongly contracted; two minutes, clonic spasms, slow respiration, micturition; two minutes and thirty seconds, continuous clonic spasms, cornea insensible; at the end of three minutes, pupils dilated, violent trembling and death. The amount of fluid required to kill a kilogram of rabbit in this case was only 17.57 c. c., less than one-tenth the amount of bouillon required.

The extremely toxic character of the bouillon modified by the presence of the microbes of the alimentary canal is most clearly demonstrated by the above experiments. The late Dr. Austin Flint called attention to the fact that the nutritive value of beef tea, animal broth, etc., is probably nil.

As already stated, it has been found by laboratory experiments that those germs which are the most dangerous and deadly to human life, grow best in beef tea and other preparations of animal tissues. It is this fact which gives rise to the peculiar offensiveness of decomposing processes in animal products, especially the tissues of animals, as compared with the same processes in vegetable products. Compare, for example, the processes of decay in an apple, a peach, or a loaf of bread, with decay in birds, fish, or a piece of beefsteak, or an oyster. That the same thing is true respecting these processes within the human body is shown by the peculiar and extraordinary offensiveness of the fæces of a carnivorous animal as a dog, of a herbivorous animal as a cow or horse. If the excreta of a cow or horse were as obnoxious and offensive as that of a dog, a stable or a dairy as ordinarily kept would be absolutely unendurable in proximity to human dwellings.

The decomposition of food products in

the alimentary canal and the coincident production of ptomaines is one of the sources of poisons found in the tissues and in the residuum of the tissues, the urine. The amount, quality, and toxic properties of the urine are almost absolutely dependent upon the dietary. A diet which gives rise to faecal matters so offensive as those of a carnivorous animal or a carnivorous man, must be a prolific source of blood-and-tissue contamination from the absorption of these toxic and poisonous products. Evidence of this tissue poisoning is to be found in the strong odor of carnivorous animals, as well as in the strong odors of the faecal matters of this class of animals. It is also a well-known fact that the flesh of vegetarian animals becomes strong and unpalatable when these animals are fed upon flesh foods.

Bouchard's researches upon this subject are extremely interesting, and entirely confirm Dr. Flint's observations as well as my own.

Griffiths of Edinburgh, and Klebs, have recently shown that in certain febrile conditions certain leucomaines, such as creatin and guanin, which are naturally possessed of only slightly toxic properties, are, under the influence of specific microbes, converted into most powerful toxic agents, some of which they have been able to isolate from the urine. Griffiths found that in scarlet fever and diphtheria the normally non-toxic creatin is converted into an extremely toxic substance which is secreted in the urine. Klebs found that in cholera nostras guanin is similarly converted into a remarkably toxic substance which is characteristic of this disease. These changes are doubtless the result of the peculiar conditions established by the disease named.

The point which I wish to make is that the peculiar condition established by the operation of laparotomy is favorable for the conversion of these tissue poisons into substances of a more highly toxic character,

and for the development of virulent properties by the bacillus coli communis which is always present in the alimentary canal of mammals, and also for the development of an unusual amount of toxic matters.

For the purpose of obtaining positive evidence upon this point, I determined to apply the ingenious toxicity test devised by Bouchard. This test consists of the injection of the urine to be tested into the veins of a rabbit, at the rate of about 1 c. c. per second, continuing the injection until the death of the rabbit occurs, noticing carefully meanwhile the symptoms produced during the injection, the mode in which the rabbit dies, the effect upon temperature, and the relation of the amount of urine required to produce death, to the weight of the rabbit and to the weight of the patient. The result is termed the coefficient of toxicity, by which is expressed the amount of living being in kilograms, which would be killed by the quantity of urine produced by one kilogram of the patient in twenty-four hours. This result is obtained as follows: Dividing the amount of urine required to kill the rabbit by the weight of the rabbit, gives the amount of urine required to kill one kilogram of rabbit, and also the total number of urotoxies, or the number of kilograms of rabbit or of living being which would be killed by the total amount of urine produced by the patient in twenty-four hours. Dividing this result by the weight of the patient in kilograms gives the urotoxic coefficient, or the possible amount of living being killed by the urine produced by one kilogram of the patient in twenty-four hours. This test was applied in the following cases prior to abdominal section, and again the second day after the operation, with the following results:—

Case 1.—Mrs. H. Removal of appendages to check the growth of a bleeding myoma. Patient did well after the operation, and showed no symptoms of shock, no febrile disturbance, no tympanitis, very

little pain. The toxicity test before the operation gave a urotoxic coefficient of .46, the normal figure. After the operation the urotoxic coefficient was found to be .336, a very low coefficient, indicating diminished elimination of toxic substances in the urine.

Case 2.—Mrs. W. Laparotomy for removal of the appendages to check the development of bleeding myoma. This patient also did well after the operation; no febrile disturbance, no tympanitis, and uninterrupted progress to convalescence. The toxicity test before the operation gave a coefficient of .82. After the operation the coefficient was found to be .399. The coefficient before the operation was unusually high; after the operation a trifle below normal.

The diminished toxicity of the urine in both cases was doubtless due to the fact that on the day following the operation food was entirely withheld. The alimentary canal being entirely empty, the production of toxins was diminished through the lessened activity of the microbes in the alimentary canal.

Case 3.—Mrs. L. In this case the patient had suffered for a number of years from frequently recurring attacks of pelvic inflammation, involving both the tube and the ovaries. This patient exhibited, on the second day after the operation, a rise of temperature, the thermometer indicating 101° F. The temperature continued elevated for several days, but was controlled, and a threatened peritonitis averted by the vigorous employment of saline laxatives, hot vaginal douches, and other therapeutic measures. The results of the toxicity test were as follows: Before the operation the coefficient was found to be 24; after the operation, 1.08,—a coefficient more than double the normal, and four times than found before operation, indicating an enormous increase of toxins, clearly explaining the rise of temperature.

Case 4.—Mrs. C. Abdominal hysterectomy.

A large multinodular bleeding myoma was removed, together with the appendages. The patient did perfectly well for the first two days following the operation. The third day after the operation this patient's temperature was 100.4° F. The abdomen was enormously distended with tympanitis, a condition which had arisen suddenly during the night. The patient was retching and vomiting mucus every few minutes. I felt much apprehensions as the symptoms were decidedly indicative of peritonitis. The patient suffered considerable pain. The facial expression was that of great depression, and there was certainly cause for anxiety.

The toxicity test in this case showed before the operation a coefficient of 1.65, an unusually high coefficient. The second day after the operation the coefficient was found to be 4.90, the highest coefficient I have ever observed. The significance of this condition of the urine, or rather, of the condition of the alimentary canal which produced this extremely toxic urine, was clearly apparent the next morning, after the collection of the specimen when the patient was found in the condition already described. Previously the patient had apparently been doing exceedingly well; but the decomposition taking place in the alimentary canal after food was administered had overwhelmed the system with toxins which the kidneys were doing their best to eliminate. Fortunately the vigorous application of saline laxatives, soap enemas, etc., quickly relieved the patient, so that in twenty-four hours her condition was entirely changed, and she made rapid progress to a good recovery.

Case 3 illustrates the fact that marked toxæmia may exist in abdominal cases without the production of any decided febrile action, either because the morbid process is not such as to give rise to fever-producing toxins, or because temperature-depressing toxins may be present in sufficient quantity to neutralize the effect of

toxines which might otherwise give rise to temperature elevation.

These experiments certainly show, beyond any opportunity for question, the fact that a special cause for toxæmia exists after laparotomy, and it seems clear to me that they prove this cause to be associated with the condition of the alimentary canal.

I do not wish to be understood as claiming this to be a new discovery. This fact has long been recognized by Tait and his followers. The purpose of the investigation has been to place upon a scientific basis a fact which has heretofore rested solely upon clinical evidence.

Another fact which is worth noting is this: After laparotomy there is always more or less stagnant fluid in the peritonea cavity, and doubtless a larger or smaller number of microbes capable of producing organic decomposition is admitted to the abdominal cavity under the most favorable conditions for operation, as regards a sepsis. As the result there must always be produced a larger or smaller quantity of ptomaines which are removed from the abdominal cavity by absorption, to be eliminated by the kidneys. It is thus apparent that a large amount of extra work is required of the kidneys in the excretion of these subtle poisons, after an abdominal operation. Anything which materially increases the work of the kidneys must on this account be objectionable. Flesh food has the effect to greatly increase the amount of renal work, as is well shown by an experiment which I conducted last year in the Laboratory of Hygiene of which I have charge. The experiment consisted in first obtaining an accurate estimate of the urea produced in twenty-four hours by a healthy man subsisting upon an aseptic dietary, from which meat, cheese, and other ptomaine-containing foods were excluded. This data obtained, the young man was allowed to eat flesh food freely for several days. An enormous increase in the amount of urea occurred. At the beginning of the

experiment the amount of urea eliminated each twenty-four hours was twenty-eight grams, and after four days of meat diet, the urea was increased to 110 grams per diem. The coefficient to 110 grams per diem. The coefficient of urinary toxicity at the beginning of the experiment was .45, or normal; at the end of two days the toxicity had increased to nearly four times the normal amount, or 1.7.

In a recent interesting paper on the treatment of Bright's disease, Sapelier, an eminent French physician of Nanterre (*Bulletin General de Therapeutique*), in prescribing the dietetic regimen suited to patients suffering from this disease, absolutely prohibits the use of bouillon and all juices and extracts of meat, remarking of bouillon, that it is a "*véritable solution de ptomaines*." The revelations of modern physiological chemistry have quite upset our old notions respecting the value of beef tea, beef extracts, etc.

The tissue juices of a dead animal are almost absolutely devoid of nutrient value. The nutrient portion of flesh is the organized part, which is not soluble, otherwise it would be dangerous for an animal to fall into the water, as it would dissolve like a lump of sugar. The soluble elements found in the tissues of a dead animal are almost purely excrementitious in character, since the tissue continues for some time after the death of the animal, while the elimination ceases, a small amount of nutrient material found in the blood and tissue juices at death being thus converted into leucamines, ptomaines, and other toxines after death, by the tissue changes which occur post-mortem, or after the somatic life of the animal ends and before tissue death occurs, and by the decomposition which begins within a few hours after death, even when the carcass of the dead animal is exposed to the low temperature of an ordinary refrigerator.

Proscription of flesh food as a diet in abdominal surgery may be considered a

refinement in surgical nursing which has a theoretical rather than a practical value, but it is only by the employment of just such refinements that surgical statistics have been brought to the present state in the hands of the best operators. Any refinement in technique or management of a critical operation which involves the life of a human being, by means of which the mortality rate may be reduced even one or two per cent. from the results obtained by the best operators—and my statistics show a reduction greater than this—is certainly worthy of consideration.

While thus taking extraordinary precautions against attack from foes within, the enemies to life which may arise from the environment of the patient are not forgotten. Every article of clothing and bed clothing which comes in contact with the patient just prior to or after the operation, are not only freshly laundered, but are afterward sterilized in an apparatus by means of which they are subjected to a current of steam at high pressure. No dust is tolerated in the wards, the halls, under furniture or beds. Neither brooms nor dusters are allowed. The floors are cleansed by means of carpet sweeper and a moist cloth. The pure country air which surrounds the hospital comes fresh from green fields and forests, and hence is not freighted with microbes like the air of a densely populated city, which often contains millions to the cubic yard of a miscellaneous assortment of germs; and yet I take the precaution to filter it by means of an automatic air filter run by electricity, which I have contrived, and which demonstrates its efficiency by the accumulation of dust and germs upon one side of the cotton strainer, while the other side is absolutely free from both. A stream of air from this filter covers the field of operation while the abdomen is open and until the dressings are applied. [For the last year I have adopted the German method of freeing the air of the operating room from germs by

means of a jet of steam which fills the room with a fog, by means of which any floating germs are moistened and weighted so that they settle to the floor.]

With these precautions against microbes both without and within, it is rare that even so much as a suture abscess occurs in my ward, and indeed a drop of pus from any source other than a chronic abscess or an ulcer (which, however, are not admitted into the same ward with abdominal cases), is rarely seen. Abdominal hysterectomies, as well as complicated ovariectomies, often go from operation to convalescence without exhibiting a temperature above 100° F.

With so thoroughly aseptic an environment, and taking the precaution to filter the air which rushes into the abdomen as the fluid is withdrawn, by means of an antiseptic drainage-tube, I am able to leave a drainage-tube in situ as long as needed in any case, and without the appearance of the slightest suppuration. In a recent case in which my aseptic drainage-tube had been in place for four days, I inoculated several tubes with material taken from the bottom of the drainage-tube, and with cotton with which the upper end of the tube had been rubbed both inside and outside, and also the raw surface of the wound adjacent to the tube. Several plate cultures were also tried, but not a single microbe made its appearance even after the lapse of more than two weeks, and the plates were carefully watched from day to day. Those who discard the drainage-tube altogether on account of the readiness with which a septic condition appears when it is used, are evidently working under conditions unfavorable to asepsis. I have noticed that some of those who discard the drainage-tube make frequent mention of stitch abscess as a complication in the history of cases. I regard suture abscess as itself an evidence of faulty technique as regards asepsis, which ought to lead to a searching self-examination on the part of the surgeon and a thoroughgoing inquiry into all pos-

sible causes of sepsis which may exist in his hospital, among his nurses and assistants, his instruments, sutures, dressings, or methods. I find that it is only by making a most profound impression upon nurses and assistants, that they can be brought to appreciate the need of close attention to minutiae in the details of asepsis, and a conscientious observance of the rules laid down. This is accomplished in part by a short course of instruction in bacteriology, which includes a sufficient amount of practical work to render the nurse fully acquainted with the enormous possibilities for mischief-making locked up in a singly microbe, or in an amount of infectious matter too small to be seen by the naked eye.

Another matter which I consider of no small importance in the post-operative management of abdominal cases with relation to intestinal asepsis, is the early movement of the bowels. Instead of waiting until the second or third day, I move the bowels by enema as soon as the first symptom of gas accumulation appears, as indicated either by distention colic pains, or by pain in the side or back, a common symptom of gas accumulation in the colon. Water as hot as can be easily borne is employed, not a little soap is added if necessary. The effect of the early administration of the hot enema I find to be good not only in getting rid of gas, but also in relieving the patient, combating collapse, and arousing the vital activity of the semi-paralyzed nerve centres. I usually order an enema the first night following the operation.

Another advantage is gained by the early enema which I estimate highly. It stimulates peristaltic movement sufficiently to properly place the intestines, and straighten out any fold which may have resulted from manipulation, and which by adhesion may cause obstruction. In 430 abdominal sections performed within the last six years since adopting this procedure, I have never

once been obliged to open the abdomen to relieve an obstruction or brack up an adhesion following the operation.

Celerity in operation, not through undue haste, but by the aid of quick methods and manual dexterity, supported by well-trained and attentive assistants, good instruments, a good light, and the elimination of all distracting elements, so that the attention and energy of the surgeon and all his assistants may be concentrated upon the work in hand, is certainly a matter of no small advantage to the patient, since it secures to him the least possible handling of the tissues, the shortest possible exposure, and the smallest possible amount of anæsthetic,—all considerations of great importance. I find that patients in whom the operation is completed in the shortest time, other things being equal, make the most rapid convalescence. I do not pride myself on being a rapid operator, and should be ashamed to be known as a hasty operator; but I aim to reduce the time of my operations to the smallest number of minutes and seconds consistent with complete, thorough, and neat work. Everything that needs to be done must be done, and must be done well; but fussiness, hesitancy, and loss of time in demonstration to students or lookers-on, are in my opinion wholly out of place in operations of this sort.

A plan which I find of great value in expediting operations is the thorough rehearsal of the nurses and assistants who are to take part in operations, previous to entering the operating-room.

Fifteen minutes is sufficient time for an uncomplicated case, such as a simple non-adherent cyst, or removal of the appendages when not unusually adherent. In more than half my cases the operation was completed in thirty minutes or less. The longest time required in any case was two hours and fifteen minutes, in which an imbedded cyst was so completely entangled by

adherent intestines and bands that I almost despaired of being able to complete the operation. In thirty-one cases the average time was about one hour, owing to the very great difficulties presented and the necessity for patient and careful work. The successful surgeon must know when to proceed cautiously as well as how and when to work rapidly.

As an evidence of the importance and value of special attention to asepsis, I present herewith a tabulated account of all the cases of abdominal surgery which have come under my hand in the Sanitarium Hospital between October 1, 1889, and July 11, 1895. The cases reported include all the abdominal operations which I have performed during this time. In all but two of the cases upon which I have performed abdominal operations within the time mentioned, the rules respecting intestinal asepsis which I have detailed above, have been carried out, with the following results (the two cases referred to were in the country at a distance, I being called by the attending physician at the last moment; both were men, and both died):—

*Summary of Cases of Abdominal Section,
performed between October 1, 1889,
and July 11, 1895.*

Total number of cases of pyosalpinx, hydrosalpinx, and hematosalpinx, one or both sides, 44; 5 deaths. One patient recovered from the operation but died eleven weeks later from exhaustion from the opening up of a fecal fistula.

Ovarian tumors, 78 cases; 1 death.

Abdominal hysterectomy, 27 cases; 4 deaths.

Myomectomy and ovariectomy, 4 cases; no death.

Exploratory incisions, 24 cases; 4 deaths (all malignant cases of advanced stage).

Incomplete operations (one ovary and tube removed), 2 cases; no death.

Operations for removal of the appendages to check the growth of fibroid tumors, 52 cases; 1 death.

Total number of cases for removal of diseased appendages, 224; 6 deaths.

Batley's operation, 2 cases; 1 death (hemorrhage); ligature slipped from violent struggling of patient).

Appendicitis, 3 cases; no death.

Gastrorrhaphy (suture of stomach), 1 case; recovery.

Section and suture of intestine, 1 case; recovery.

Removal of diseased appendages (non-septic), including 78 tumors of ovary and 55 tumors of uterus, 332 cases; 3 deaths.

Total number of cases excluding hysterectomies and malignant cases, 395; 8 deaths,—a mortality of practically two per cent.

Total number of deaths, 20.

Between April 3, 1891, and August 15, 1893, I had an unusual run of good fortune, which, however, I attribute less to good luck than to the fact that at the beginning of this period I had brought my technique of operating, plan of management of cases after operation, and the discipline of my nurses and surgical assistants, to a higher state of perfection than before, and thus succeeded in maintaining somewhat more favorable conditions for recovery than previously. Between the dates mentioned, covering a little more than two years and four months, I had a series of 165 abdominal sections for removal of diseased appendages, pus tubes, tumors, etc., with an equal number of successive recoveries. During the same time I had nine successful abdominal hysterectomies, the addition of which would increase my list to 174. This includes twenty cases in which the appendages were removed to check the growth of bleeding uterine fibroids, the appendages being also diseased. In many cases the tubes contained pus, in two of which the tubes ruptured internally in spite of my best efforts to avoid such an accident, the abscess walls being so rotten as to make even the gentlest manipulation impossible without rupture.

This series included also thirty-six ovarian tumors.

Of seventy-eight ovarian tumors recases in which tumors were present upon both sides, I have had the good fortune to lose but one case. This was a case of very large ovarian fibroid. The patient died from an obscure and rapidly developed toxemia, the cause of which I have never been able to understand.

The total number of cases of abdominal section for removal of diseased appendages, including 78 tumors, 52 cases in which the appendages were removed to check the growth of bleeding fibroids, 4 cases of simultaneous myomectomy and ovariectomy, in which pus was not present at the time of the operation, is 332, with a total mortality of only 3 cases. (Tait-Hegar operation for fibroids, 52, 1 death; myomectomy and ovariectomy, 14 cases, no death; diseased appendages, pus absent, 198 cases 1 death; ovarian tumors, 78, 1 death).

I do not boast of any greater skill than is possessed by numerous other operators, and it is no injustice to myself, to attribute the remarkable results which I am able to show as regards reduction of the mortality rate to the great pains taken to secure intestinal asepsis in accordance with the principles laid down in this paper. The hospital in which I operate is located remote from any large city and in a region especially noted for its purity of air; but I feel confident that the chief element in this phenomenal success in saving life is intestinal antisepsis, or as I should perhaps more properly say, intestinal asepsis.

In justice to the views presented in this paper, I ought perhaps to add that the cases operated upon have not been selected ones. I may also state that within the period covered by the report of these cases, I have not declined to operate in any case apparently requiring operation in which there seemed to be any reasonable prospect of affording the patient either permanent or temporary aid, in fact, have declined to

operate in only two or three cases on account of the hopelessness of the case, and in these cases it was very clear that the disease was malignant, and surgical interference absolutely useless. I have, however, declined to operate upon a number of persons who solicited operation for removal of the ovaries, and who had been referred to me by physicians for the performance of the operation. Several of these cases, together with their subsequent history and recovery, I have detailed in a paper entitled, "The Non-Surgical Treatment of Ovarian Disease," a subject which I consider of vastly greater importance than that to which this paper is devoted. Certainly no physician can deprecate more than do I the removal of any bodily organ when the necessity for surgical interference is not positively, very positively, indicated. I take care to preserve all the structures removed in every case of abdominal section, and have done this for many years, not only for the purpose of pathological study, but as an evidence of the morbid condition present and of the necessity for the operation. The cure of a chronic sufferer without resorting to the knife is far more satisfactory than the best results of surgical skill. On the other hand, the prospects of life for a patient with but one chance in a hundred for recovery from the operation is better without operation than with it.

When a careful physical examination discloses no evidence of structural change in the ovaries, a cure should be undertaken, and may be expected, by the adoption of non-surgical means. That the great majority of cases of chronic ovarian pain, dysmenorrhea, and allied cases may be cured by non-surgical means, I have endeavored to show in the paper already referred to.

In my own experience I find occasion for surgical measures in a very small proportion of the cases of chronic ovarian disease which come under my care. But when

structural changes of an incurable and disabling character have occurred, so that the patient is reduced to a state of chronic invalidism, surgical measures are in order as a proper means for relieving the patient from her misery, and the surgeon should not hesitate to advise a radical procedure, even in cases in which the patient's life may not be in danger, provided she values health and usefulness sufficiently to be willing to undergo the suffering and risk involved in an operation of this character. Many patients suffering from chronic ovarian disease endure more pain, and often run as much risk of life, at each menstrual period as would be occasioned by an operation for the removal of the diseased organs under the most favorable conditions. An operation which involves a risk to life of less than one per cent. in 332 non-septic cases, is certainly not so much to be dreaded as ten or twenty years of constantly recurring pain and inflammation, and the risk to life is certainly far less than that incurred by a woman who carries about with her, continuously, the active foci of septicemia in the shape of distended pus tubes which are liable to rupture or otherwise to communicate their infection on the slightest provocation, as from the excitement of the menstrual epoch, the congestion produced by a little overdoing, a slight cold, or even an inactive state of the bowels.

That some surgeons have reported little relief from pain in cases in which the operation has been performed for the relief of chronic pelvic pain due to cirrhotic or cystic ovaries, salpingo-ovaritis, and other allied affections, is, I think, due in many cases to neglect to subject the patient to proper after-care and treatment. In many of the cases requiring this operation, the removal of the diseased appendages is but the preliminary step necessary for the re-establishment of the patient's health. The tendency to local inflammation which has

become chronic through the long-continued presence of diseased structures must be subdued by the employment of the vaginal douche, together with hydrotherapy, the local application of electricity, and other suitable measures after the operation has been performed.

Local inflammation immediately succeeding the operation, resulting in extensive inflammatory exudates, is, I am confident, not an infrequent cause of failure. A number of cases have come under my care in which ovariectomy had been performed by other surgeons for incurable ovarian disease, but without relief, and in which I only found it necessary to subject the patient to thoroughgoing treatment for a few weeks, in some instances enforcing rest in bed in the meantime, to secure all the good results hoped for from the operation. In these cases I have found evidences of inflammatory exudates in the pelvis which were evidently the result of the traumatism of the operation. I endeavor to avoid such consequences by the employment of the hot vaginal douche immediately after the operation and continuing it in a most thorough manner until all danger of inflammatory reaction has passed away.

I am satisfied that by these means I have succeeded in saving many patients from a protracted convalescence. I am inclined to think, also, that these patients are sometimes allowed to get upon their feet too soon after the operation. Some surgeons allow their patients to stand upon their feet the fifteenth day after the operation. In my experience it is better to give the patient a longer time in bed,—from three to six weeks, according to the degree of danger from inflammatory reaction.

It must be remembered, also, that the patient who has been relieved of a source of pain or chronic infection is still an invalid, and is capable of being benefited by all those curative agencies which are useful for the restoration of the health of a neurasthenic, anemic, dyspeptic, or otherwise

vitality exhausted invalid. The resources of hydrotherapy and electrotherapy, and a carefully graduated course of massage, Swedish movements, and Swedish gymnastics, applied by the aid of the exact indications of the dynamometer, under the supervision of an experienced and discreet instructor, are of infinite value in the restoration of such a patient to a state of physical soundness. To send direct from the hospital ward to her home, or to a fashionable seaside hotel, where she must be subjected to conditions which, to say the least, are not the most suitable for a delicate invalid, a patient upon whom the operation of ovariectomy has been performed for the relief of an exhausting malady which has existed for years and has reduced her to a state of chronic invalidism,—to send away a patient, neglecting to give her the benefit of the powerfully recuperating and vitalizing means afforded by a proper use of baths, electricity, massage, and systematic gymnastics, is, in my opinion, a course well calculated to invite the continuance of chronic invalidism, and to deprive the patient of a large share of the benefit which the resources of modern rational medicine are capable of securing her. The surgical procedure, in cases of this sort is only the initial step of the process by which the patient may be led out of her life of misery, uselessness, and suffering, into one of physical soundness and usefulness. It is often difficult to convince the patient of the necessity of supplementing the surgical procedure by the non-surgical therapeutic means referred to, and it not infrequently happens that patients do recover, in time, a very satisfactory degree of health and vigor without the employment of such means; but my experience in the management of this class of cases has been sufficiently large to enable me to say with a good deal of confidence that, while this is true, it is equally true that the convalescence following a successful surgical operation may be greatly shortened, and the value of the ultimate

results obtained may be vastly increased, by the subjection of the patient to a course of systematic health-culture and training after the operation.

By such a course of treatment, intelligently managed and continued until convalescence is not only well established, but until the progress toward health has been brought to such a degree of advancement that the patient may be considered to be upon a solid footing, she may be insured against the frequent relapses and prolonged weakness and invalidism which not only dishearten the patient, but often discourage the friends and bring surgery into disrepute, and lead other women whose lives are in the highest degree wretched and miserable, from chronic intractable ovarian or tubal disease, to decline the only means which offers them any hope for radical and permanent relief.

Many cases which would otherwise receive little or no benefit from removal of the tubes and ovaries, the seat of chronic disease, owing to the presence of the condition termed by Glenard and other French writers enteroptosis, in which general prolapse of the intestines and other abdominal viscera maintains a constant state of irritability in the abdominal sympathetic, and through this the entire nervous system, may be, by a proper course of treatment and training subsequent to the operation, restored to sound health and useful activity. The after-treatment of these cases is certainly a subject to which abdominal surgeons should give more attention. After the surgeon has done his work as a specialist, if he is not prepared to give the patient such advantages as are required for building up her wasted energies and expediting the establishment of nervous equilibrium, he should send her where she may have such advantages, and in so doing he will have the satisfaction of achieving success in many cases which with different management will bring him only disappointment and professional discredit.

Evangelistic.

A DAY AT LEBANON DISPENSARY.

It opens at 8.30 a.m., but long before that, as early as 5 o'clock, patients begin to arrive, for they come from very long distances, some even from Hauran (the old Baohan) and some from the "coasts of Tyre and Sidon;" they are obliged to start early, so as to perform the journey before the heat of the day begins. The work commences with a short Arabic service, to which all present listen attentively.

Then there is a busy time when, one by one, the patients go in to see the doctor, passing from his room to the dispensary to obtain their medicine. This goes on briskly till twelve or one o'clock, when the dispensary is closed, and quietness settles down on the scene, for everyone must rest indoors during the time of great heat.

In the evening work begins again. There are prescriptions brought to be made up, dressing to be done, etc., and the dispensary is always open for accidents. Sister Alice spoke of the great need of surgical appliances for the treatment of cases that come.

Then she described some of the work out of the dispensary. Some who have seen the doctor must be visited in their homes and there is scarcely a house in the village where the "mission ladies" are not welcome guests and friends; so day by day the work is being carried on, the

MEDICINE FOR THE SOUL

being carried in hand with that for the body.

Sister Alice pointed out that this was just the work needed in the Lebanon. The words they hear are scattered all over the country. They retail to their friends who have not been to the dispensary all that the "mission ladies" have said, for there are no daily papers to gossip over; so the seed is being scattered broadcast over the land and God has promised "My words shall not return to Me void."

The visiting of the families round us makes a large circle for us and, taken in connexion with attending to the dispensary patients we see, gives to three of us quite as much as we can do. In the morning it is a deeply interesting sight to see the patients collected and sitting patiently waiting their turn. A sister sits beside them often and is able to minister to many a weary and burdened soul and to tell them at the same time of the Good Physician.—*Open Doors.*

AFRAID TO DIE.

A man brought a card for me this morning with a request to go and see a woman in the East Street. She is very ill and cannot live very long and I was obliged to tell her so. She was very frightened, saying, "Give me some of your medicine that will cure me, for I fear to die," and taking my hands in hers she laid her head down on them and cried. I stayed as long as I could with her, telling her of Jesus, that He would take away the fear of death and begging her to believe in Him. She had two dear little children and I asked if they were hers; she answered, "Yes, can you not

CURE ME FOR THEIR SAKES?"

While I was speaking to her the room filled with men; but I was too taken up with her to ask them to go out. Turning my back on them, I told her over and over again that Jesus loved her, that He died for her and that her idols could not help her. I cannot explain fully in writing the solemn time we had together; for I felt sure that I should never see her again on earth, as over and over again it happens that we see sick ones and then if we cannot cure them they will never let us into their houses again.—*Mrs. Belcher, of Liang-chau, Kan-suh.*

"We would close the report of medicine work by saying that we are rejoiced at this opportunity of again seeing some one regularly sitting in the dispensary and pointing to the Great Physician, of whom it is written: 'Who forgiveth all thine iniquities; who healeth all thy diseases.' The daily and constant prayer is that the Great Physician may honour our labour and forgive and heal."—*Report of Arabian Mission.*

BATANGE, WEST AFRICA.

"The number of patients increased until we treated forty-five a day and sometimes as many as twenty-five were sleeping in a space fit for fifteen.

From April 10th to September, Mrs. Gault held meetings in the hospital every day. At least a few people have expressed a determination to accept Christ as their Saviour. Many of them often express their gratitude to God for sending help to their suffering bodies. Patients came from four days by canoe up the coast and fifty miles down, and twenty miles up the Lobe river. During ten months we had six hundred out-patients and eighty in-patients.—*Florence Roberts, in Woman's Work for Woman.*

MOOLTAN MEDICAL MISSION.

Miss Eger, M D, writes that since the reopening of the dispensary and hospital a good work has been done. Some difficulties at first arose, but by-and-by the women began to come freely, 1106 out-patients being registered in the first three months.



SHANSI MISSION.

IMPORTANT MEDICAL WORK.

Dr. Atwood, of Fen cho-fu, sends a striking account of the work done by his native medical assistant, who had accepted an invitation received from the Governor General of Yü-lin-fu, in Northern Shensi, to go to that place and establish an opium refuge. It seems that this invitation came about through the agency of an official, Huang Ssu-yia, who last year was treated with success in Dr. Atwood's opium refuge at Fen-cho-fu. Dr. Atwood says that recent events seem to show that their hopes that this man had been really changed by the power of the Gospel were well founded. The people of his city say that he is a changed man and that he is living a righteous life. Dr. Atwood writes:—

“On arriving at the city the medical assistant, Mr. Li, visited the principal officials of the city, including the Governor General and Taotai or mayor of the city, in company with our Huang Ssu-yia.

“After consultation it was decided that the refuge should be opened in the city examination hall, which is very large and spacious. On opening the refuge, sixty-four people were received to go through the treatment, most of them being either civil or military officers, four being the wives of officers. One of the number was the acting mayor of the city. The assistant treated him daily at his yamén, only a few steps away from the refuge. Another distinguished patient was a son of the Governor General. Many excellent opportunities were faithfully used to present the truths of the Gospel and in some cases the truth was listened to with marked interest. The acting mayor especially listened to the truth with many expressions of interest. His real official post is in the capital of the province, Si-an-fu. He is located at Yü-lin-fu temporarily. He is soon to return to his post in Si-an-fu and he told the assistant that when he did so he should send an invitation to us to come to that city and establish an opium refuge. Thus we have in prospect an ‘opium refuge extension,’ and indefinite possibilities of opportunity for doing good.

“Quite a large number of religious books were disposed of to these officials and daily prayers, with preaching, were regularly maintained even

against opposition at first from some sources. It has been quite an experience for the assistant and he has developed under it wonderfully. He returned covered with dust and glory, bringing a 'tablet,' with the inscription on it in large gilt letters, 'Humility Saving Men.' 'To Mr. Li, of the Christian Church of Fen-cho-fu, from the officers and citizens of Yü-lin-fu.' Then follows a list of between forty and fifty names. The tablet was presented with a large firing of crackers, and a large number of officials, mounted on horses and in their official robes, escorted him out of the city gates. Besides the number of opium habitués treated, there were a large number of sick people treated and some minor surgical operations were performed that seemed very wonderful to the people in this far-off corner of the empire. The city is within three miles of the great wall and forms a customs barrier for the trade going into this part of Mongolia."

Of the opium refuge in Fen-cho-fu, Dr. Atwood says:—

"The work in Fen-cho-fu has grown out of all proportion to our accommodation and some of the time we have turned away larger numbers than we took in. The number successfully treated is more than double that of last year and the number of dispensary treatments is just about double that of last year. Our medicines are running short. I have sent out no orders for drugs this year because of prospect of a cut in appropriations. What shall we do with this tide of work pouring in on us and nothing to stem it with? The women's work and the regular hospital work is turned out of doors. What shall we do about it?"

KOREA.

We insert the following extract from a letter written by I. Hunter Wells, M.D., Pyeng-yang, Korea:—

Pyeng-yang was the site of the decisive land battle of the Japan-China war. This beautiful place is the historical centre of the country. Its history teems with interesting stories—legendary, semi-legendary and true—of love, conquest and conflict since Kija, its founder and founder of modern Korea, set up his government here, about the time that king David was reigning in Jerusalem. Judea, in the meantime, has suffered most radical changes, while here there is much that is as Kija left it. This is true of the people and some of their customs.

Following the war came the cholera and the few of the timid inhabitants who had not fled from the horror of the former ran away from the terror of the latter, so that when I first arrived here in September, 1895, the city presented a sad sight. Deserted and dismantled houses, blackened ruins,

demoralization and decay. The shifting political scenes which culminated in the murder of the queen, and later the flight of the king to the Russian Legation, have not given the people an exalted idea of the stability of things. They are, however, used to that sort of thing. At the present moment business of all kinds is prospering. A newspaper conducted honestly and fearlessly is becoming a power for good and all the signs seem to point to national and material prosperity.

The readers of *The Church at Home and Abroad* are familiar with the work here from the letter of Messrs. Moffett and Lee.

The first sowing of the seed was many years ago by men long since departed. Rev. Dr. Underwood with his wife visited this place several years ago and there was constant itinerating through a period of several years by Rev. S. A. Moffett and later by Messrs. Moffett and Lee. The heroic service of the late Dr. Hall and wife, of the Methodist Mission, continued by their successor, Dr. Follwell, also deserves mention. The Roman Catholics have not been idle.

Since last November it has been my privilege to make two very interesting itinerating tours with Mr. Moffett into adjoining regions. In the two there were 105 catechumens received of some 150 who applied and twenty-eight were baptized. Over 400 patients were seen and prescribed for, spiritually and medicinally. Here, in Pyeng-yang, during the same time, our church has been enlarged twice and now has an average attendance of about 250, counting women and children, who are often left out in the Orient. Children are not counted until they have the small-pox or measles or scarlet fever. The additions to the rolls since October here and in the adjoining districts are 297 catechumens and sixty-two (62) baptized, with work growing in every direction.

The medical work has had to do with over four thousand patients during the same short time and with very poor and slight facilities. I have nevertheless performed two major amputations, one of a leg and one of an arm, both highly satisfactory and successful; extracted cataract with perfect result in restoring sight to a man totally blind for several years; besides other eye operations and surgical work.

Things are now running along smoothly and in a few months our little hospital and dispensary will be put up where with a trained nurse we could, in the course of a year, take care of several hundred patients, doing any operation of modern times, and attend to the thousands of dispensary patients who are constantly coming—though the average now is only between twenty and thirty a day.

Our houses, under Mr. Lee's skillful superintendence, will soon be ready for occupancy.

Such, in brief, is the situation here at the present moment. That the Holy Spirit has blessed and is blessing us in all our work is evident and we all feel the responsibility resting upon us.—*The Church at Home and Abroad.*

Speaking of the way in which the reading of God's Word becomes fruitful, the Rev. T. J. Arnold, Wuhu, Province of Anhui, says: "I will only mention one individual case. A boy of fifteen went for treatment to a Mission Hospital in Nanking. During his stay he learned to read the New Testament. When he returned home a copy was given him. He told me that he reads it every day, has worship in his father's house and that their shop is closed on the Lord's day. When anyone is sick or in trouble, this bright little fellow takes his New Testament and reads to them a portion. With a beaming face he told me that on doing this the sickness or trouble was removed. He showed me the book with a look of genuine pride and indeed it bears evidence of having been frequently read. Such simple faith is refreshing and we are constrained to believe that it is honoured of God, even in those who know Him but imperfectly."—*The Gleaner B. F. A. S.*

SOUTH CHINA MISSION.

CONTINUED GROWTH.

Dr. Hager, of Canton, in making his half yearly report, alludes to the prevalence of the pestilence called "the black plague," on account of which some of the schools have suffered. But this has been the case only in Hongkong. Dr. Hager writes:—

"In the country five schools have been maintained and the work on the whole has been more successful than in any previous year. They are all doing good and thorough work and it is no uncommon thing for the pupils who are still heathen to come with their teachers to our chapels. One teacher's influence over his pupils is especially beneficial, the villagers themselves furnishing rice to the teacher because he is held in such high esteem. I recently visited one of these schools and the scholars all declared that the idols were false. The high school that we started is doing very well thus far and the pupils seem to be industrious, having already committed to memory a shorter catechism. The village in which the school is held is well disposed towards Christianity and there are a great many who are persuaded of the truth.

"In another place we held a service under the shade of a banyan tree and received into the church a man partially paralyzed. He had heard the Gospel for a number of years, but was principally impressed with the truth through

the influence of a fish dealer living in the same village, who is a very earnest man and zealous of good works. Philip-like he brings many a one to Christ, so that there are in his village now six baptized persons and three others not far distant. It was an unusual sight to see about a dozen Christians celebrate the Lord's Supper under the shade of the banyan tree, in the open air, with all the heathen looking on.

"In the out-stations twenty persons have been admitted into church membership during this half-year and *seven* children baptized, while in Canton there have been seven adults received and four children baptized, making in all twenty-seven adults received and eleven children baptized. Slowly the work is growing, and the Master often gives us a glad surprise of finding some seed germinating where we had least expected to find anything. During the same half-year on the five journeys made, during which I camped probably some fifteen weeks, I have been enabled to treat 600 patients and extract nearly 300 teeth, which is more than I was enabled to do last year during the entire twelve months.

"The principal feature of the half-year, however, has been the opening of *three new out-stations*, a thing never attempted before in any one year in the history of the mission. Because of the present financial crisis, and reduction of my own estimates to fifty-one per cent. of the sum asked for, it might seem to be a question whether this were a wise move, but I went forward and I think we shall be able to make both ends meet.

"At two of these newly-opened chapels we held a communion service, while at one of them there are already a number studying the truth. The chapels are fitted up neatly and commodiously and only in one instance has the expense exceeded our expectations. In one of these places the people are very friendly and in traveling some twenty miles back and forth I seldom heard a vile word uttered against us by the Chinese, who in other parts of our field are very bitter against the Christians, so much so that they have threatened to burn their houses and to kill them and me if we continue to worship in the village. We most earnestly hope that the mission of these newly-opened chapels will be a prosperous one. We need very much a larger building for our Hoi Ping church, which is the largest church of our mission. Cannot some kind friend of the mission give us \$200 or \$300 so that we can carry on God's work a little more satisfactorily where we are not so cramped?"

Notes and Queries.

BORAX FOR PREVENTING RUST ON SURGICAL INSTRUMENTS.

1. In the *Presse Médicale* for June 6th M. Marechal says that borax solution will prevent the accumulation of rust on surgical instruments, such as bistouries, scissors, needles, and forceps. They may be allowed, he says, to remain in a two-per-cent. solution of sodium borate for a year or two and when they are withdrawn they will be found to be perfectly intact.

2. Can anyone recommend a good hair-wash?

3. The following is the cheapest, and one of the best, of cough mixtures for Chronic Bronchitis:—

Pulv. Acaciæ	dr. iii.
Sacch. Pure	oz. iv.
Picis Liq. Pure	dr. iii.
Liq. Potassæ	dr. ii.
Tr. Scillæ	oz. i.
Aquam Bullienti	oz. iii.

Mix the Acaciæ, Sacch. and Pix together, then add the potash and boiling water. Mix. Fill up to make a pint. Shake well and filter through fine muslin into stock bottle. Colour *Light Brown*. Dilute 6 times for med. and of this take oz. i. three times a day.

4. Can any one tell what is the drug which river robbers use for stupefying their patients when robbing a boat? It is much used on the River Han and seems to be a fumigation which is sent into the boat through the cracks. A patient seen not long since at a mission hospital, thus treated, was unconscious for some hours and ill for a day. When seen, more than twenty-four hours after, he had dilated pupils and dry mouth, as though the drug used was of the same class as belladonna. He stated that whilst under the influence of the drug he saw all that the robbers were doing, but could neither move nor cry out.

5. HOW TO MAKE A TURPENTINE STUPE.

Take one teaspoonful of pure Turpentine and two breakfast cups of hot water. Mix well together and wring out the flannel in the same several times until all the Turpentine is absorbed. Then place the flannel in a roller towel, pour boiling water over the towel and wring out quickly.

Review.

化學辨贊 *Jas. B. Neal, M.D.*

This book, we are informed in the preface, is substantially a translation of Clowe's Analytical Chemistry, supplemented by one chapter from Fownes' Manual of Chemistry. There seems to be a fashion springing up of translating foreign works and putting the name of the translator as that of the original author, so that such an one's translation of an author's work appears in catalogues and other places as such an one's Chemistry, Physics, etc., as the case may be. We are glad that Dr. Neal has followed the worthy example of that veteran translator, Dr. Fryer, and told us whose Chemistry it is that he is giving us in a Chinese dress.

In opening this interesting and useful work we are struck at once with the urgent necessity for an immediate agreement upon the subject of Chemical Terminology. Every new work issued from the press only makes confusion worse confounded, and any system that can be agreed upon, even though far from being the best possible, will be decidedly better than the present multiplication of systems, which are very confusing, both to teacher and student. Dr. Neal has not given us many new terms, but has found it necessary to make use of in some instances of both the terms of Dr. Fryer and Dr. Kerr.

Dr. Neal informs us that his book is the result of work done in class with successive batches of students. This is in itself a great recommendation of the work. A teacher finds out in class work what is best adapted to his students, and a book thus produced is far more likely to meet their needs than one produced in the study alone. This manual is intended specially for la-

boratory work, and we agree with the translator when he says that if Chinese students are to acquire a practical knowledge of Chemistry they must acquire it by work in the laboratory rather than by theoretical study. We are inclined to think, however, that in this book too little is said on the subject of Chemical theory. While it is quite true that experimental work is of supreme importance in the study of Chemistry, it is nevertheless absolutely necessary that the beginner should be well grounded in Chemical theory. Otherwise the formulæ for Chemical reaction, given in tables in such works as this, are in danger of being degraded to the level of the recipes in a cookery book. Such immense strides have been made of late years in Chemical discovery that many of our Chinese school texts have fallen behind, and most are deficient in their account of theoretical Chemistry. In this excellent work for example the term used for valency, 連合, will, we think, convey very little meaning to the Chinese student as the subject is not explained at all so far as we remember, a subject which is most important for the proper understanding of Chemical combinations.

The first two chapters deal with Chemical apparatus and Chemical operations. Under the first head the common necessary appliances are described, and some very good directions are given, calculated to help the learner in the use of apparatus. Great stress is laid upon the necessity for perfect cleanliness in all operations. This is a point which Chinese students often fail to appreciate, and operations are spoiled or results vitiated for want of cleanliness in the use of appliances. All teachers who

have had any, even the smallest experience in teaching elementary science to the Chinese, know how difficult it is to get them to keep apparatus perfectly clean and to be neat and cleanly in their operations. "*Ch'a puh toh*" is a great phrase with a Chinaman, but it is a poor working formula for Chemistry, and it is well that Dr. Neal had laid stress upon the necessity for care and cleanliness in conducting all Chemical experiments.

In the following chapters the usual methods of analytical Chemistry are described, and some very useful tables illustrating Chemical reactions are given. These tables are very well and clearly arranged, and as they can be seen at a glance they will be found most useful to the student.

The book is well got up and is very convenient as a text book. The headings of the sections are printed in red, so as to

catch the eye and the style is well adapted to the subject matter. We have noticed some misprints and one or two slight inaccuracies of statement. For instance, at the end of page 13 it is said that there are no elemental substances with which oxygen does not unite. Fluorine is mentioned by Roscoe as being an exception.

We conclude by saying that we are greatly pleased with this book, and hope that it will be found useful in our schools. Every book of this kind is a helpful contribution towards the enlightenment of China, and this work in particular has for its benevolent object the aiding of medical students in the acquisition of the necessary knowledge and skill which will enable them to minister to the physical well-being of their countrymen.

J. J.



Correspondence.

Ch'ao-chow Fu, Swatow, Sept. 2nd, 1896.

MY DEAR HODGE:

Herewith answers to your questions on opium. I think it is a pity you did not solicit opinions on opium *v.* alcohol and the social effects of the habit. The misery caused in smokers' families, even when they are what are called "moderate" users, is very great. The pro-opium party's trump card is:—Opium in China is on a par with alcohol at home. Of course it is not. Opium is immensely the more powerful and seductive narcotic, etc., etc., as I have tried to point out in my letter to Dr. Atterbury, published in Vol. X., Nos. 1 and 2. I hope the answers are coming in well, and that there is an absence of the somewhat wild statements that righteous indignation sometimes leads to, statements that do great harm to our cause.

What is wanted now is not opinions; we have oceans of them, but statistics. If all the members of the Association will set themselves to gather statistics from all the opium smokers they come across we shall soon have some weighty arguments to use. I suggest the following headings:—

I. Age.

II. Age when commenced to "play" with opium pipe.

III. Age when noticed that the "yin" was established.

IV. Duration of habit.

V. Reasons for smoking.

VI. Reasons for stopping.

VII. Results of the habit.

a. On the disease it was taken to cure or alleviate.

b. Physical effects.

1. Nutrition

{ Normal,
{ Diminished,
{ (Emaciation),
{ Increased.

Noting carefully the conditions as to food, work and health, as these sometimes cause the emaciation.

2. Appetite { Normal,
{ Diminished,
{ Increased.

3. Ability for work { Diminished,
{ Normal,
{ Increased.

Food, work and health also to be taken into consideration.

4. Constipation.

5. Generative functions.

c. Opinion of relatives { Employer,
{ Neighbours.

d. Moral effects.

Do people respect and trust him as much as before he smoked?

e. Effect on family.

Average (earnings) (income).

Amount needed to support himself and family.

Proportion of income smoked.

f. Effect on business.

VIII. Daily average value of opium smoked.

Maximum.

Minimum.

IX. Daily average quantity.

Maximum.

Minimum.

X. Kind of opium used.

Perhaps others may suggest themselves to you. I propose you print sheets with the above headings and columns for answers and send them to all the members, so that each may report one or two hundred cases. If these sheets lie on our consulting room tables we shall be able to fill them up before very long.

With kind regards,

Yours sincerely,

P. B. COUSLAND.

P. S.—Two other headings suggest themselves to me:—

Occupation.

Smoke at home or opium divan.

P. B. C.

[We did not solicit opinions on the relative harm done by alcohol and opium, because we consider that the two things cannot be compared at all.

We will gladly publish forms, such as Dr. Cousland suggests, if the other members of the Committee agree. Will the members of the Opium Committee kindly communicate with Dr. Hodge?].

Ch'ao-chow Fu, Swatow, July 21st, 1896.

DEAR DR BEEBE :

I think there would have been some response to your letter in the December Number if you had formulated a more detailed scheme and had taken up and considered the difficulties. I thoroughly agree with you as to the advisability of some standard of medical education being fixed upon and the necessity of a Board of Examiners, but I fear that the carrying out of the examination is not very practicable. I do not think that students from distant parts would go to the central point. I can speak for the men here. For one thing they could not afford it. Then there is the difficulty of the different vernaculars. How could oral and clinical examinations be conducted with men from places where the vernaculars are not the same as that at the examination centre? It seems to me that these are the most important methods of estimating a candidate's attainment. Mere book cramming the Chinese are adepts at. What is much needed is to test his ability in diagnosis.

How would some such plan as this do? A Board of Examiners to arrange course of study, text-books, etc., and to fix standard of requirements. The Board would meet once or twice a year to set examination papers, which would be sent sealed to such of the medical missionaries as reported

applications from students for examination.

These to be opened on a certain date, the answers written in presence of the foreigner, and sealed and forwarded by him to the secretary of the Board of Examiners.

As to the clinical and oral examination, Boards could be formed as found most convenient, and the central Board of Examiners could try to arrange that as far as possible there be some uniformity of standard at their examination.

The whole subject bristles with difficulties. Many of the present text-books are quite inadequate. How then is a standard to be fixed? Then there is the question of terms. To my mind that is the most pressing problem at present. We can make no advance; there is no inducement to do any translation work until some agreement is arrived at and a number of the present unsuitable terms are changed and needed new ones fixed upon.

Will you kindly send on this letter to Dr. Hodge for publication. It may help to keep the ball rolling,

Yours very sincerely,

P. B. COUSLAND.

CHRISTIAN HOSPITAL,

Nanking, November 7th, 1896.

DEAR DR. HODGE :

Nanking is a very malarial place, and we have all forms. I wish to speak of some of the effects, especially on the liver. We are very unfortunate in not being able to hold autopsies on our cases, but I have tried to bring up a mental picture for treatment, by comparing cases that come to me. Very commonly we see cases of very large spleen and the liver rather contracted, which have lasted for years, and if the disease has started in childhood the patient is very much stunted in growth, and there is a great deal of the malarial dyscrasia. These cases are too far gone for treatment. As far as I can see they usually end up with severe ascites and dropsy of the lower

extremities. I believe such cases are due to cirrhosis of the liver, and I am strengthened in this view, because last year one of my colleagues had a foreign dog suffering with dropsy of its hind quarters, and on opening the belly there was found a very hard cirrhosis of the liver of the hypertrophic variety, such as I have seen at autopsies at home and attributed to drink.

Cases similar, but coming under treatment earlier, have the enlarged spleen and a very much enlarged liver, with regular malarial attacks. I have seen many of such cases in children, and they respond to anti-malarial treatment. These cases are very common with us, and I would like to hear the opinions of those who have studied these diseases longer than I. Is cirrhosis of liver common in China and due frequently to malaria? Another common trouble I meet is stricture of the oesophagus, and I often am treating several cases at the same time. First there is inability to swallow solids, then inability to swallow fluids, and the patients die of starvation as they refuse operation. There is no pain and no hæmorrhage, and the only complaint is of the difficulty of deglutition. I pass sounds and help them somewhat and keep them alive for a few weeks or months, but by and bye sounds will not pass. I have thus dilated a great many, but in only one did I cause hæmorrhage, and I think that was carcinomatous, but the others are, I think, fibrous. The worst stricture is about the cardia, but there are often wider strictures further up. I would like to say a word about constipation and its treatment in China. Drugs can usually be abandoned, and during the cooler weather all the requirement is lots of fluid. One, two, three or more glasses at night before retiring, and one, two, three or half dozen as required the first thing in the morning. Plain water, aerated water, lemonade will do. This is not original with me, but is sure

just the same. Diet should of course be cared for and suitable fruits and vegetables and grains eaten. Baked pears are the best fruit I know in this country. Tientsin or Shantung pears are baked soft in the oven, and no water is used with them. These are invaluable to the chronically costive. Among vegetables onions boiled soft are the best. During the summer pears cannot be secured, and then stewed prunes and the Chinese Hwa-hung, crab-apples, are excellent. The chronically costive can be relieved. Of course cracked wheat and other wheat preparations, Graham flour, are excellent as cereals, and Boston brown bread the best thing in the bread line.

Sincerely,

W. E. MACKLIN.

Ch'ao-chow Fu, Nov. 20th, 1896.

MY DEAR HODGE:

The enclosed circular letter* was sent out more than a year ago to every medical man and woman in China whose name I could find. Of late I have heard of several who did not receive copies, and so in order that the scheme may receive the widest publicity I am asking you to publish it in the Journal. I had hoped that by this time some definite steps towards issuing it might have been taken, but in the present transition state of medical terminology it seems better to delay for a while. As the Committee on Terminology is now hard at work perhaps by another year the way may be clear.

A considerable number answered the proposal, and the great majority favourably. Only one did not see the need for such a Journal, the objections of the others were chiefly on the ground that it would not pay its way and that the Association could not afford to run it. The financial difficulty is a real one, but if every hospital and dispensary will take a copy for each student,

* See Notes and Items.

encourage assistants and ex-students to subscribe, and perhaps take a few extra copies or give a donation privately, or from the hospital funds, the Journal should soon be on a paying basis. The London Medical Missionary Society has agreed to give £5 for the first year at least, and perhaps other

subscriptions may be received. The Journal must not be too expensive for its constituency, nor too small to be of any real value. Time and experience will enable the happy medium to be found.

Yours sincerely,

P. B. COUSLAND.



Notes and Items.

"IN THE GOOD OLD DAYS."

Gervase Markham, who wrote "The English Housewife" some years before our ancestors left that country, says, "A knowledge of physic is a principal virtue of a housewife." He gives directions to the housewife how to cure most diseases, but confesses that "some fevers may pass the housewife's capacity." He speaks as if each of his remedies were infallible; they were called "sovereign." While none were injurious, many of them were inert, others ridiculous: and here and there it is seen that the essential virtues of some of the most valuable of modern remedies had at least been partially disclosed. For instance, when he directs powdered saffron to be mixed with poppy seed and lettuce seed, and then mixed with woman's milk, to be bound on the temples for sleeplessness, we see that the king of soothing medicines, opium, was even then beginning to be known. For apoplexy or palsy "the strong smell of a fox is exceeding sovereign." For quinsy the patient was to drink a decoction of mouse-ear in ale, and there was to be "a stone rubbed where a hog had rubbed, and then the swelling was to be rubbed with it." Pains in the bones were to be treated with oil of swallows, the directions for making which are "to beat about twenty kinds of vegetables"—which he enumerates—in a mortar with "twenty quick swallows," and butter and wax are to be added. An ancient aphorism, "Every part strengthens a part," led to the use of the most repulsive and unlovely secretions, even to excrements of animals; and there were some which evidently held a mystic element, such as a bone from the heart of a stag, the *left* foot of a tortoise, blood from under the wing of a *white* pigeon, and many more equally absurd, but

used through the authority of the most learned physicians of the time. When we read that for a new cold or cough sugar and aqua vitæ—euphemism for brandy—was to be taken on going to bed, we are reminded of rock and rye of to-day; and when we find that for that parasitical disease very rife in the old times—itch—quicksilver beaten with other substances as an ointment was used, we see that they were on the track of the great destroyer of microbes now universally used as bichlorid of mercury. Nearly every family had its own combination of wax, rosin, turpentine and lard as a plaster for burns, cuts and other wounds; and many of these salves bore the name of some famous physician. In England many medicinal plants were cultivated in gardens, and treatises upon them were written and printed; and the New Englanders planted from seeds brought from the old country sage, hyssop, rue, tansy, wormwood, celandine, comfrey, saffron, mallows, chamomile, Mayweed, yarrow, shepherd's purse, dandelion, patience, bloody dock, elecampane, motherwort, burdock, plantain (which the Indians named white man's footprint), catnip, mint, fennel and dill. A housewife was supposed to know at just what period the virtues of each particular plant were most potent, and when was the propitious moment for its garnering in one of those aromatic attics that formed the pharmacopæial armamentarium of the wise mother. Some physicians followed this vegetable schedule of treatment called galenical in contra-distinction to the chemical—which meant the use of minerals—found to be most efficient in many diseases but from that time to this encountering a prejudice wholly undeserved. A Dr. Balivant, of Boston, is commended forasmuch as "he does not direct his patients to the

East Indies for drugs when they may have far better out of their gardens"; and this simple practice largely prevailed here, while into England, in 1660, there were imported 250 kinds of drugs, animal, vegetable and mineral, on which duty was paid; and so great was the number of substances used that a writer of the time indulges his satirical propensities thus:—

"Doctors are not slow to pour drugs of which they know little into bodies of which they know less."—*New York Independent*.

WHERE HUMANITY LANGUISHES.

The natives of the Friendly Island, in order to check any spreading ulceration or disease, hack off the limb at a joint, working a sharp shell to and fro, thus making a horrible jagged wound. In cases of delirium, the poor sufferer is invariably buried alive, and it is related that a young man, delirious with fever, was twice buried, and in his frenzy twice burst up the grave, but was again seized, lashed to a tree, and allowed to die of starvation.

Among the natives of the South Pacific Islands generally, "cutting" is the universal remedy for every ailment. If pain in the head is felt, an incision is made over the part "to let pain out;" if diarrhoea is the complaint, then cuts are made over the abdomen; if rheumatism, deep incisions are made over the painful parts; if fever, various parts of the body are cut; this cruel treatment being always associated with propitiatory offering to the idols.

It would be easy to multiply illustrations of the ignorant, barbarous, and superstitious notions of the people in all heathen lands, with respect to the nature and treatment of disease, but the foregoing will give some conception of the need there is for the beneficent ministry of the missionary physician.

No friend of humanity

—and surely no friend of missions—can think of such heathenish rites and ceremonies performed over the sick and dying, of the inhuman ordeals imposed upon them, and the untold sufferings inflicted, and the holocausts of victims thereby consigned to an untimely and cruel death, without endeavoring to stretch forth a helping hand to ameliorate their sad condition. What an honor would be conferred upon the church were she to avail herself of the privilege, and be the means of conveying, along with the Gospel, the blessing of our great modern discoveries and appliances in medical and surgical science, into those less favored lands, where humanity languishes under the agonies of unmitigated disease! Surely, in the light of the life of our Saviour Jesus Christ, the worse than helpless condition of those heathen nations in the face of disease and suffering, is a loud call to us to share with them the blessings which God has bestowed on us.—*The Missionary Intelligencer*.

"There is no use my trying to be a Christian," said an old Chinese woman; "look at my feet," pointing to her deformed, bandaged feet. "Why, what have your feet to do with it?" asked the missionary. "Oh," said the other; "if I am a Christian I will have to go into the world and preach the Gospel, and I could not travel with these feet."—(From "The Double Cross.")

CALLED ASIDE.

Called aside;—

From the glad working of thy busy life,
From the world's ceaseless stir of care and strife,
Into the shade and stillness, by thy Heavenly Guide,
For a brief space thou hast been called aside.

Lonely hours

Thou hast spent, weary, on a couch
of pain,
Watching the golden sunshine and the
falling rain ;
Hours, whose sad length only to Him
was known,
Who trod a sadder pathway, dark
and lone.

Called aside ;—

May not the little cup of suffering be
A loving one of blessing given to
thee ?
The cross of chastening sent thee from
above,
By Him who bore the cross, whose
name is Love.

Called aside ;—

Hast thou no memories of that " little
while,"
No sweet remembrance of the Father's
smile,
No hidden thoughts that wrapped
thee in their hold,
Of Him who did such light and grace
unfold ?

Called aside ;—

Perhaps into a desert garden dim—
And yet not lone when thou hast been
with Him,
And heard His voice in sweetest ac-
cents say,
" Child, wilt thou not with Me this
still hour stay ? "

Called aside ;—

Oh, knowledge deeper grows with
Him alone,
In secret oft His deeper love is shown ;
And learned in many an hour of dark
distress
Some rare, sweet lesson of His ten-
derness.

Called aside ;—

In hidden paths with Christ thy Lord
to tread,
Deeper to drink at the sweet fountain
head,
Closer in fellowship with Him to roam,
Nearer, perchance, to feel thy heaven-
ly home.

Called aside ;—

We thank Thee for the stillness and
the shade,
We thank Thee for the hidden path
Thy love hath made.
And so that we have wept and watch-
ed with Thee,
We thank Thee for our dark Gethse-
mane.

Called aside ;—

Oh, restful thought—He doeth all
things well—
Oh, blessed sense, with Christ alone
to dwell :
So, in the shadow of Thy cross to
hide,
We thank Thee, Lord, to have been
called aside.
[From " The Double Cross. "]

A CHRISTIAN LEPER'S DEATH.

The *Independent* gives an impres-
sive account by a Presbyterian mis-
sionary, of the funeral of a Christian
leper in India. In the fierce glare
of a summer day, with the tempera-
ture at 165 deg. " wilting one's
strength like an attack of fever," the
missionary had visited the afflicted
man before his death. " If," says he,
" I had fancied that I must hasten to
sustain the failing faith of an igno-
rant convert, whose gathering calami-
ties must be driving him back to the
trust of his earlier and happier days,
I was soon rebuked. His faith seem-
ed as strong, his doubts as few, as my
own; in evident bodily distress, his
words were all in praise of God's
goodness, and trust of His grace.
My visit was little needed, except
to show sympathy with the poor
sufferer, and the kind companions
in affliction who gathered about him,
and to commend these " little ones "
to the Great Heart of Love.

Early the next day we were not
surprised to hear that the poor leper
had passed away. In that fierce heat
the funeral must perforce take place

the same evening. I called in the aid of a few native Christian friends, for there were not whole hands enough among these leper men to hold the ropes which should lower their brother into his last resting place. Even with these helpers it was found best to carry the corpse laid out upon its light bed and the heavy coffin separately to the graveside. Here I found them, in a quiet God's acre just outside the village wall—the still, straightened form, under its white sheet, quiet friends sitting around, and the silent hush of evening above. The grave diggers were still at work, but made almost no sound. Presently the grave was pronounced ready. The voice of prayer and song and exhortation broke the stillness. Then the kind leper friends gathered thick about the grave to cast in “dust to dust” with their maimed stumps of hands, and thus poor Bipat ‘affliction,’ ceased from his affliction.”

“FAITHFUL UNTO DEATH.”

“Can we say, with Dr. Grant (when tempted to leave his work): ‘I have solemnly vowed, in the presence of men and angels, that I will consecrate myself and all I have to the Lord; and I dare not go from that altar to stand impeached before an assembled world of having been an unfaithful steward, of having loved the world more than God, more than the souls of my dying fellowmen?’”

“‘Who follows in his train?’ With the best medical knowledge, surgical skill, consecrated to go forth like the Son of man, ‘not to be ministered unto, but to minister;’ ‘and into whatsoever city ye enter, . . . heal the sick that are therein, and say unto them, The kingdom of God is come nigh unto you.’”

Are you helping in this work?

“‘This I saw, that when a soul

loves God with a supreme love, God's interests and his are become one. . . . It is no matter when or where or how Christ should send me, or what trials He should exercise me with, if I may be prepared for His work and will.’—*David Brainerd.*”

FOOT-BINDING.

Mrs. Archibald Little writes, Ch'ung-king, September 16th, 1896: “I do hope the Memorial has gone to the Emperor, but have not yet heard. For eighteen days now not a mail bag has reached us, though they ought to arrive every five days. It rains still, and roads and bridges are washed away. Mr. Little predicted from the beginning of the summer that there would be a flood in the autumn. The prediction is likely to be realised.

All business is stopped by the rain here, and to-day, to make a variety, the bristles men, who sort and make into bundles the pigs' bristles, have struck.

It will certainly interest many more than the recipient of this letter to hear that Mr. Falls, C. I. M., writes from Sui-fu, the large thriving city at the confluence of the Min and Yang-tsze on the highroad from Chentu, the capital of Sze-chuan, to Yün-nan Fu, on August 29th: “You will be glad to hear that through our efforts in widely distributing anti-foot-binding literature, preaching and teaching its errors and setting an example among our own people, outside-s have now taken the matter up, and to-day have been distributed upon our streets and posted up about this city several thousand copies of a good tract written by some of the leading Masters of Arts in this prefecture against this cruel practice. It is a magnificent treatise, and backed up by such influential men must do some good.

This movement is no doubt the direct outcome of our vigorous movement here and we trust it will grow. If you have any more of the tracts (done into Wên-li by Rev. T. Richard) I should be glad of some more, as the "Triennial Examination" is announced for next month and I would like to be well stocked by the time the students come."

Mr. Upercraft (American Baptist) had already "brought the good news from Ghent," i.e., Sui-fu, together with a copy of the appeal, signed and sealed by Mr. Chow, a Chü-jen and well known, also signed by five other well known literati with an endorsement of his views. There have already been indications of a Chinese movement against foot-binding higher up the river amongst better class people in country houses, as far as we know untouched by missionary influence, but this appeal, with its reference to intelligent men who agree with the writers in Hong-ya and the other cities, seems to point to some kind of Chinese organization and we hope soon to hear more. Already several young men of good position have assured us of their resolution not to permit the binding of their little daughters. We are having the Sui-fu appeal reprinted here and hope soon to be able to supply copies, either for posting or in tract form. It is evidently what Chinese think will affect Chinese and more especially adapted to the district in which it is being first circulated, where in the hills around women must often be in peril from robbers, or rebels; yet there are some passages that must tell all over China, in especial where the writer contrasts the punishment of a robber, who is beaten in the Yamên and recovers in a fortnight, with the punishment inflicted upon an innocent girl, who, if she has her feet bound, suffers from them all her life long. We observe also that these Chinese gentlemen, addressing Chinese, do not hesitate to speak of the pains of foot-binding

in terms which would hardly be tolerated by some of the foreigners in Shanghai, who cannot believe in mothers being so cruel to their little girls. 'Tis true, 'tis pity. Pity 'tis, 'tis true!

It only now requires a long pull, a strong pull and a pull all together, and this hideous custom of 1000 years will become despised and the women of China once more set upon their feet again.

Mrs. Little's letter is a rebuke to those of little faith. China is moving. We can see the glimmering of a brighter day. Millions and millions of tortured women will soon be relieved of the pain they have had to bear. The Sui-fu gentry see the thing as we see it and in this there is hope. Their example will undoubtedly be followed in many places. This good movement should then be warmly encouraged. It is one of many social benefits conferred by Christianity that such evils as this disappear before its beneficent advance.

THE GRACE OF LOVE.

To my mind there is no working of love like the sending of the Gospel to the perishing souls of men at the ends of the earth. I grant that charity, in a true and important sense, begins at home and if we had no home church to draw from, the supplies of charity for the heathen would soon fail. But I confidently ask if home charity, needful and precious as it is, is as lofty a kind of charity as that which deals with want and woe, enforced by the naked claim of humanity in distress. The man who simply provides for his own is a very useful member of society; but he is not taken as the type of a philanthropist any more than the man who wept not, because the death had happened in another parish, is accepted as a type of sympathetic sorrow. Our Lord rebuked these limitations in the parable of the Good Samari-

tan; for there is here a sting of lofty philanthropy indignant at any barrier which would circumscribe the outflow of love to the whole human race. Is it not an exalted feature of British commerce, that every great calamity strikes to its heart, so that immediately a subscription is opened on every Stock Exchange? But why should missions be less expansive and the soul be less provided for than the body?—*Lord Cairns.*

CONSECRATED MEANS.

The humblest life becomes sublime when it takes hold upon God's plan, and helps to work it out. The noblest powers of earth take their supreme inspiration, their coronation and glory, from contributing to the Divine plan. And that will be a joy to us when heaven is opened, for we may look on the earth and say: "I saw that purpose and I worked to accomplish it. I gave money and time and labour and life to that supreme endeavour." There will be a joy which the harps of saints cannot fully bear, and the lips of the redeemed cannot fully utter. The magnificent privilege of life is to take part in this work and do it with all our might, and do it unto the end.—*Rev. Dr. Storrs.*

"IT LAUGHS ALL THE WHILE."

One of the most pathetic incidents of the yearning of the human being for the Divine is that related by Bishop Whipple, of Minnesota. "Some years ago," he says, "an Indian stood at my door, and as I opened the door he knelt at my feet. Of course I bade him not to kneel. He said: 'My father, I only knelt because my heart is warm to a man that pitied the Red Man. I am a wild man. My home is five hundred miles from here. I knew that all of the Indians east of the Missis-

sippi had perished, and I never looked into the faces of my children that my heart was not sad. My father had told me of the Great Spirit, and I had often gone out in the woods and tried to talk to Him.' Then he said, so sadly, as he looked in my face: 'You don't know what I mean. You never stood in the dark and reached out your hand, and could not take hold of any thing. And I heard one day that you had brought to the Red Man a wonderful story of the Son of the Great Spirit.' That man sat as a child, and he heard anew the story of the love of Jesus. And when we met again he said as he laid his hand on his heart: 'It is not dark; it laughs all the while.'"

"HE MUST BEGIN TO STUDY."

"When a man has become an in-patient in a hospital, where probably he must lie in bed for several days or weeks, and while under treatment must observe unselfish, unpaid for, skilful attention from the Christian surgeon or nurse, he must begin to study about it. It is then his heart will melt and open. For the first time since he was born he will realize what benevolence is. This sense is fundamental to any apprehension of the Gospel. It is also index of a radical change in the man's estimate of the missionary as a representative of the Gospel. The Christ-like has dawned on the heathen.

Still further, when the patient shall have recovered and returned to his home, he will carry the report and spirit of the place where he has found healing. Again, as in Christ's time, the mercy shown becomes authentication of a heavenly mission. Dr. Gillison, of Hankow, told us that he had often been thrilled with the deepest emotion to observe the awakening of appreciation, and so of a man's moral sense, as if by miracle,

as the result of some slight attention bestowed on a patient.

It might be from only the tucking in of a man's foot exposed to a draught of air. He further testified that as the result of two operations for cataract on the eyes of two sisters from one household a village was opened to the Gospel, nearly a whole clan was converted, and a promising church organized."—*Rev. Henry C. Mabie, D.D., Sec. A. B. M. Union.*

THE SIMULATION OF DEATH BY
INDIAN FAKIRS.

An interesting account of this subject was recently given by Dr. Kuhu to the Anthropological Society of Munich and reported in the *Journal de Médecine de Paris*, an abstract of which is published in the *Province Médicale* for October 26th. Dr. Kuhn, says the writer, had had occasion to observe two cases, the genuineness of which he had no reason to doubt. One of the fakirs in question had been interred for six weeks and the other for ten days. The fakirs, who are hysterical to the highest degree, possess the faculty of producing artificially a condition identical with cataleptic ecstasy. They use all possible means, such as mortification of the body by a special diet, the internal employment of different plants known only to themselves and the adoption of a peculiar posture of the body for many hours, etc. When they have practised this for a sufficient length of time, they assume one of the postures prescribed by the sacred books of the Indians and fall into a hypnotic condition induced by looking fixedly at the end of their nose. Hasheesh is still made use of by them to diminish the respiratory force, for this hypnotic, when associated with other plants and employed in a peculiar manner, makes up for the loss of air and nourishment.

The fakirs have hallucinations when hypnosis begins; they hear certain sounds, they see angels, and their faces express a feeling of happiness.

But, little by little, consciousness disappears and the body acquires a peculiar rigidity. This is evidently, says the writer, a matter of self-hypnotism in hysterical persons who are sufficiently predisposed to it. This lethargy is looked upon by the people as death, and when the subjects are aroused it is God who has brought them to life.

We have received from Dr. Macklin a set of Nankin L. P. O. stamps, very prettily designed. The accompanying note states that the residents in Nanking had found it necessary to issue some stamps to meet the expenses of their mails. He wishes us to state that all profits will be given to charitable purposes.

A CHINESE CHARM.



CHARM

OR THE TERROR OF "CHINA'S MILLIONS."

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Buddha was born on
the 8th of the 4th
moon,

Marries away to the
midst of the moun-
tains,

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And the red maiden Ne'er to return for
marries to-day; ever or aye.

We are sorry to hear that our friend, Dr. Boone, of Shanghai, has been very ill with pneumonia: the last news, however, was more reassuring. Dr. Boone is one of the oldest members of our Association and was one of its original founders.

The Dr. will have our deepest sympathy in his affliction and our earnest prayers for his recovery.

We have been asked to publish this appeal, a copy of which had, a long time ago, been sent round to every medical missionary.—(Ed. M. M. J.)

A MEDICAL MISSIONARY JOURNAL IN
CHINESE.

DEAR DOCTOR,

Doubtless many of us have been feeling increasingly the desirability of having a medical missionary Journal in Chinese, for the benefit of our assistants, students, and ex-students.

At present these assistants and students have, for the most part, no knowledge of what is going on in other hospitals. Each little group works away by itself. There is nothing to bring them all together, no means of intercommunication. The inspiration and stimulus we feel in reading of the work of others is largely unknown to them. A Journal devoted to their interests, and to which they would themselves contribute, would enable them to realize better the importance of their work, both in its Christian and scientific aspects. It would create more desire for accurate scientific acquirements and perhaps modify the wish so many have to learn a little and then go out to make money.

It would be useful, too, to ex-students now practising their profession. How rusty they must become with practices largely limited to certain kinds of cases, with few books and no journal to refresh their memories, to help them to a clearer grasp of the nature of their every day cases and to bring before them new remedies and methods of treatment!

There must be many such. Dr. Kerr said recently that there were one hundred old students of the Canton Hospital now in practice. The number turned out by the various hospitals is steadily increasing. It is important also to help them in their Christian life and save them from falling into the deceitful ways of native quacks.

Such a journal would help with the term question. It seems vain to hope for a set-

tlement at present. New terms will constantly crop up and gradually the best will recommend themselves. By means of the Journal the aid of the natives could be enlisted.

In view of these considerations I would propose that the Medical Missionary Association of China be asked to establish a Chinese Medical Missionary Journal.

The following suggestions are given in the hope that they may serve as a basis of discussion:—

1. That it be in easy Wên-li.
2. That it be published quarterly to begin with, but that as soon as possible it be issued monthly.
3. That there be a general editor, assisted by ten or twenty collaborators, or assistant editors, and that each one be responsible for a certain amount of copy.
4. That members be chosen to write quarterly reports on the progress of various branches of medical and allied sciences; e.g., the Eye, Ear, Skin, Bacteriology, Midwifery and Gynæcology, Surgery, Medicine, Materia Medica and Therapeutics, Physiology, Chemistry, Biology.
5. That when new or unusual terms are used they be followed by the English or Latin terms in brackets.
6. That until a definite syllabary is adopted for transliterating foreign proper names the transliterations be followed by the original name in brackets.

It would be too much to expect many original or specially written articles from the busy medical missionaries of China and their native assistants, but suitable translations from foreign periodicals and from the C. M. M. Journal would be very much in place. Bearing in mind our constituents communications should not be beyond their attainments.

Will you kindly give the whole subject your best consideration and let me have your opinion and suggestions at earliest convenience, so that it may be laid before the Medical Missionary Association of China without unnecessary delay.

Yours very sincerely,

PHILIP B. COUSLAND.

Swatow, Sept., 1896.

BIRTH.

At Hoihow, Hainan, 6th October, the wife of H. M. McCANDLISS, M.D., American Presbyterian Mission, of a son.

DEATH.

At Hongkong, on Sunday, October 11th, MAGARITA, aged four, only daughter of Dr. and Mrs. F. T. B. FEST.

ARRIVALS.

At Shanghai, 3rd October, Rev. W. E. SMITH, M.D., wife and infant for, Canadian Methodist Mission.

At Amoy, 14th October, Rev. Dr. J. A. OTTE, wife and three children (returned); Dr. F. T. B. FEST, wife and two children, for American Reformed Church Mission.

At Shanghai, 18th November, Rev. JAS. S. WEBSTER, M.D. (U. S. A.), from England for China Inland Mission.

At Shanghai, 19th November, Dr. DAISY

MACKLIN, for Foreign Christian Mission, Nankin.

At Shanghai, 24th November, Dr. W. A. YOUNG, for Scotch Presbyterian Mission, Manchuria.

At Shanghai, 27th November, Dr. and Mrs. EDGAR WOODS (returned), and two children, for Southern Presbyterian Mission.

At Shanghai, 8th December, Dr. and Mrs. CHARLES LEWIS, American Presbyterian Mission.

At Shanghai, 10th December, Dr. and Mrs. F. M. WOLSEY, M. E. Mission.

At Shanghai, 20th December, Dr. WOLFENDALE, for London Mission.

At Shanghai, Dr. and Mrs. J. TILSLEY (unconnected).

DEPARTURE.

From Shanghai, 28th November, Dr. MARY BROWN, of Presbyterian Mission, for United States.



SPECIAL NOTICE.

In accordance with the Special Notice on p. 179 of the last issue the following alterations in the Constitution are now proposed:—

1.—Proposed by Dr. Hodge and seconded by Dr. Boone, that Article III. read as follows: "The members shall be graduates of a recognised regular medical college, with proper testimonials from the Missionary Society under whose auspices they are labouring. They shall be proposed by one member of the Association and elected by a majority of those voting. They shall be considered members when they shall have signed, or sent in their names to be added to, the Constitution, thereby agreeing to be bound by its provisions."

2.—Proposed by Dr. Hodge and seconded by Dr. Boone, that Article V. of the Constitution read as follows: "The officers of the Association shall consist of a President, a Vice-President, a Secretary, a Treasurer, an Editor and a Curator of the Museum, all of whom shall be elected biennially by a majority of the members voting. No member shall be eligible to the office of President for two successive terms. These officers shall have the power to elect Executive Committees from their own body, or from other active members of the Association to fill up any vacancies (caused by death or otherwise) in the executive of the Association and to take initiative action in all matters affecting the welfare of the Association."

3.—Proposed by Dr. H. T. Whitney and seconded by Dr. Hodge, that the word "President" in Article IV. of the Bye-Laws be struck out and the word "Association" be inserted in its place.

4.—Proposed by Dr. H. T. Whitney and seconded by Dr. Hodge, that Article VI. of the Bye-Laws read: "All motions shall be presented with the signature of the proposer, either directly to the Association or through its Journal."

5.—Proposed by Dr. Hodge and seconded by Dr. Boone, that the following new Article be added to the Constitution, viz., "Article VII. That every President on retiring become an Honorary Vice-President of the Society for life."

6.—Proposed by Dr. Hodge and seconded by Dr. Boone, that Article II. of the Bye-Laws be amended by the addition of the words: "In the absence of both President and Vice-President the meeting shall elect its own Chairman."

7.—Proposed by Dr. Hodge and seconded by Dr. Boone, that Article III. of the Bye-Laws be amended by the insertion of the following words after the word "Constitution," viz., "Notify in writing new members of their election, keep a roll of all three classes of members and publish a revised list annually in the Journal."

Members are requested to fill up their voting paper and forward it to the Secretary, Dr. Beebe, Nanking, not later than March 1, 1897. By Article X. of the Bye-Laws it is provided that a three-fourths vote of a regular meeting *alone* can alter a Bye-Law: no such provision is made for the alteration of the Constitution. It is impossible to keep the *letter* of this regulation, but the spirit will be kept if a large number of members will take the trouble to vote. The subject is sufficiently important to merit this attention.

Official Notices.

The following officers have been elected for the term 1897-1898, viz. :—

*President—*Dr. H. T. WHITNEY.

*Secretary—*Dr. R. C. BEEBE.

*Treasurer—*Dr. MAIN.

*Editor—*Dr. G. A. STUART.

Vice-Presidents :—

*North-China Division—*Dr. J. B. NEAL.

*Shanghai and Nanking Division—*Dr. MACKLIN.

*Canton and South China Division—*Dr. P. B. COUSLAND.

*Fukien and Formosa Division—*Dr. BLISS.

The Wuchang and Hankow Division is not filled up.

Censors.—A large number of gentlemen have obtained single votes, but the only one with more than one vote, and therefore the only one elected, is Dr. GILLISON.

The following gentlemen have been duly elected members of the Medical Missionary Association :—

WILLIAM BENTON SCRANTON, B.A. (Yale); M.D., *Columbian Col. of Phy. and Surg., U. S. S.*

B. L. LIVINGSTONE LEARMONTH, M.B., C.M. (Edin.),

ELIOT CURWEN, M.A., M.B., B.C., *Cant.*; M.R.C.S., *Eng.*; L.R.C.P., *Lond.*

Exchanges will please note that after this date the Editor will be Dr. STUART, Methodist Episcopal Mission, Nanking. All communications must in future, be addressed to him.

